

QUANTIFYING SCHOLARLY PRODUCTION AMONG RECENTLY TENURED LANDSCAPE ARCHITECTURE FACULTY

CHRISTENSEN, KEITH M.

Department of Landscape Architecture and Environmental Planning, Utah State University, 4005 Old Main Hill, Logan, Utah 84322-4005, keith.christensen@usu.edu

MICHAEL, SEAN E.

Department of Landscape Architecture and Environmental Planning, Utah State University, 4005 Old Main Hill, Logan, Utah 84322-4005, sean.michael@usu.edu

1 ABSTRACT

The career development and success of landscape architecture faculty hinges increasingly on their scholarship. Research performance is emphasized by academic institutions, whose assessments of faculty productivity are based on quantifiable research behaviors. Landscape architecture does not easily fit the traditional academic department model. As a result, it often becomes necessary for landscape architecture faculty to describe the academic context in which they engage in scholarship and may place them at a disadvantage when evaluated. The purpose of this study was to establish a current understanding of landscape architecture faculty scholarly productivity.

The study employed direct content analysis of the curriculum vitas of 18 landscape architecture faculty members who were awarded tenure at nine similar public universities in the 2008-09 academic year or thereafter. Common scholarly outputs, such as refereed journal articles, juried competition participation, reports, etc., were operationalized by the research team. Two researchers independently analyzed each vita, thereafter comparing the individual results, and negotiating any discrepancies with a third researcher.

The results describe the mean scholarly productivity of landscape architecture faculty during the tenure evaluation period and after the awarding of tenure. The findings suggest landscape architecture faculty members' scholarly productivity continues to be relatively low in comparison with other academic disciplines. An emphasis on traditional academic refereed products is pronounced. The findings also suggest that a minority of landscape architecture faculty are responsible for a majority of the scholarly productivity. Landscape architecture as an academic field is in need of greater training in conceptualizing, acquiring support for, conducting, and reporting research to be successful in an

academic environment and provide a much needed foundation for current practice.

1.1 Keywords

scholarship, faculty, tenure, academia, productivity

2 INTRODUCTION

The career development and success of landscape architecture faculty hinges increasingly on their scholarship (Deming and Swaffield, 2011). In particular, research performance is emphasized by academic institutions, whose assessments of faculty productivity are based on quantifiable research behaviors (Milburn and Brown, 2003). Faculty in the process of demonstrating their scholarly productivity and its value to secure academic promotion and tenure balance the compatible yet distinct demands of scholarship and the preparation of future practitioners. Landscape architecture does not easily fit the traditional academic department model (Milburn et al., 2003). Prior studies of landscape architecture scholarship indicate that faculty productivity is hindered by relatively high instructional loads and student contact time (Milburn et al., 2001; Chen et al., 2011). As a result, it often becomes necessary for landscape architecture faculty to describe the academic context in which they engage in scholarship (Gobster et al., 2010), and may place them at a disadvantage when evaluated with faculty in other fields.

However, there is little recent investigation of the type, quality, and quantity of scholarship on which faculty may be appropriately evaluated in the diverse context of landscape architecture (Chenoweth, 1992; LaGro, 1999; Milburn et al., 2001; Milburn and Brown, 2003). Therefore, the purpose of this study was to establish a current understanding of landscape architecture faculty scholarship.

3 METHODS

The study employed direct content analysis, specifically systematic intuitive interpretive analyses to classify and quantify the curriculum vitas of landscape architecture faculty members who were awarded tenure within the last five years. Participant selection was framed by the specific need to communicate expectations for landscape architecture faculty productivity within Utah State University. As a result, participant selection involved first identifying similar public land-grant university programs with accredited bachelors and masters degrees in landscape architecture. Twenty one of 66 accredited academic programs, all within the United States, were identified as peer institutions to Utah State University.

Early in 2013, the administrators for each of these 21 academic programs were contacted and asked to identify their faculty who had been awarded tenure in the 2008-09 academic year or thereafter. Three program administrators were unresponsive after repeated requests and were excluded from the study. The remaining 18 administrators identified 24 faculty who were awarded tenure during the defined period. According to the purpose of the study, faculty members who were not successful in garnering tenure were excluded from the study. Interestingly, seven academic programs reported no faculty awarded tenure since the 2008-09 academic year. Participation of the 24 identified individuals was solicited by an email request wherein they

were asked to provide their current full curriculum vita. Participants were assured anonymity in the reported results. Six faculty were unresponsive after repeated requests. In total, 18 faculty members representing nine academic programs participated in the study, a 75% response rate.

3.1 Measures

Scholarship in landscape architecture may be defined as creative intellectual work that is validated by peers and communicated. Accordingly, scholarly productivity is primarily assessed by peer review as a measure of the quality of a faculty member's contribution, and the number of publications, presentations, and secured external funding as measures of communication productivity or quantity (Rudd, 1988 in Milburn et al., 2003). Although these generalities cannot fully elucidate the complexity of scholarship in landscape architecture, an important step toward a more coherent academy is the acceptance of increasingly precise terminology regarding scholarly outputs (LaGro, 1999). This is still the case. Accordingly, to establish a coherent metric for this study the authors identified categories of scholarly output felt to be generally recognized, as shown in Table 1, the definitions for which were taken from established definitions/specifications such as the 2012 Higher Education Research Data Collection (HERDC) specifications and Australia Research Council (HERDC, 2012; ERA, 2012; Deakin, 2012).

Table 1. Scholarly output categories and definitions

Category	Review	Definition
Journal Article	Peer ¹ -	A written work published in an academic/professional journal. The journal is published by a recognized publisher and possesses an ISBN ³ .
Conference Proceedings	Peer -	A fully written work published in the collection of papers of an academic/professional conference.
Abstract	Peer -	A written abstract, extract, extended abstract, or synopsis published in an academic/professional journal or conference proceedings.
Presentation – Invited	-	Presentation at an academic/professional conference where the organizers independently approach the author.
Presentation – Contributed	-	Presentation at an academic/professional conference where the author approaches the organizers.
Presentation – Poster	-	Presentation of a display at an academic/professional conference.
Book	-	A major written work bound and published. Preferably by a recognized commercial press or publisher, and possessing an ISBN.
Book Chapter	-	A written work contributing to a compilation subject to editorial scrutiny.
Article – Working Paper	-	A written work distributed independently or in an unrecognized journal.
Article – Popular Press	-	Newspaper or magazine articles, media interviews, internal newsletters and the like.
Report	-	A written work completed in behalf of an independent entity.
Website	-	An online work.
Illustration	-	A graphic work distributed independently or in a recognized outlet.
Exhibit	Refereed ² -	Curated exhibition of original creative work in an independent public venue.
Design Competition	Refereed	A competition sponsored by an independent organization inviting the submission of proposals.
Creative Work, Design/Planning Project	-	Original work for which copyright law could conceivably apply.
Built Work	-	The manifestation of original work/design common to landscape architecture and its allied disciplines.
Award	-	An award offered by an independent organization according to a publicly understood process. The independent organization is at least an academic institution or equivalent.
Grant Award	Refereed	Funding allocated through competitive granting schemes.
Contract Award		Funding allocated in response to an independent organization's request.

¹ Peer Reviewed work involved a formal, impartial, and independent assessment or review of the work in its entirety before publication/presentation, conducted by qualified experts independent of the author.

² Refereed exhibits involved a publicly understood refereeing process conducted by an independent review panel formed from qualified peers.

³ International Standard Book Number.

3.2 Procedures

Content analysis of the curriculum vita was conducted during April 2013. The textual content was individually coded and quantified for the year

tenure was awarded and the prior five years. Post-tenure was the year following through the 2012-13 academic year. In consideration of publication lags, all works reported as accepted or in-press were counted as published in the year indicated. Single

and multi-authored publications or creative works were not assessed differently. Two researchers independently coded the textual content of each vita according to the pre-defined operational terms/categories and their subjective perspective. The categories under which individual faculty presented their scholarly output were not strictly adhered to, but rather the textual information was coded according to the previously agreed upon operational definitions for this study. The individual results were then compared to identify any discrepancies, whereupon consensus agreement concerning alternative interpretations was reached through dialogue with a third researcher (Graneheim and Lundman, 2004). The agreed upon findings were then interpreted to address the purpose of the study. Initial agreement was over 90% with the exception of one category.

4 RESULTS

The study results are reported descriptively as the total mean productivity by category during the tenure evaluation period and after the awarding of tenure in Table 2. The information in Table 2 is not presented for comparison between the pre- and post-tenure award periods as the post-tenure period varies in length between participants. Two participants are outliers with significantly higher scholarly productivity in numerous categories. The total mean productivity is also reported with these two participants excluded from the sample for clarity. Participants' curriculum vita were very unclear regarding the distinction between grants and contracts. As the researchers were unable to code the information appropriately, it was necessary to aggregate all funding as external funding, although this category does include internal academic institution awards as well. For the remaining categories, initial independent researcher agreement was over 90% with the exception of peer reviewed conference proceedings. Across the participants it was difficult to assess the accuracy of conference proceedings designated as peer-reviewed. This category required substantial investigation of the proceedings by the researchers and consensus agreement to establish.

The mean yearly scholarly productivity is reported in Table 3. To calculate the yearly productivity for participants after the awarding of tenure, the overall scholarly productivity was divided by the mean post tenure period for participants.

5 DISCUSSION

A major criticism of the academic field in supporting the profession (Milburn et al., 2001), scholarly productivity in landscape architecture is low relative to that of collegiate scholars, where yearly publication rates range between 0.74 in the fine arts, 1.46 in the physical sciences, 2.54 in health sciences, and 3.38 in engineering for example (Dundar and Lewis, 1998; Fairweather, 2002; Fox, 2005; Prpic, 2009). Prior study indicates landscape architecture faculty publish 0.48 refereed articles per year (Milburn et al., 2001; Milburn and Brown, 2003) and give 0.87 conference presentations per year (Milburn and Brown, 2003). With a publication rate already considered low, more recent study of landscape architecture faculty suggests that publication in the discipline is trending away from refereed articles toward conference proceedings (Chen et al., 2011).

This study indicates that during the evaluation period for tenure landscape architecture faculty publish between 0.4 and 0.6 peer reviewed journal articles per year, 0.3 to 0.5 peer reviewed articles in conference proceedings per year, give between 1.1 and 1.31 invited conference presentations, and delivered between 0.86 and 2.68 contributed conference presentations per year. In regard to external funding, landscape architecture faculty secure between \$57,485 and \$101,670 per year of their pre-tenure evaluation period.

After being awarded tenure, landscape architecture faculty publish between 0.35 and 1.19 peer reviewed journal articles per year, 0.29 to 0.71 articles in peer reviewed conference proceedings per year, give between 1.97 and 2.07 invited presentations, and delivered 1.52 to 1.58 contributed conference presentations per year. Post tenure, landscape architecture faculty secure between \$26,260 and \$86,299 in external funding each year.

These results support earlier findings regarding publication rates, but show significantly higher conference presentation rates. While low overall, the results suggest that landscape architecture faculty are emphasizing traditional academic refereed products. Further, scholarly products historically associated with landscape architecture, but less so with other academic disciplines, such as exhibits, design competitions, and creative work, are being largely ignored likely in favor of the more institutionally accepted outlets needed to garner support in the academic environment.

Table 2. Total mean productivity by scholarly output category (not for pre- post- comparison)

Category	Tenure Timing	Mean Productivity	Mean Productivity excluding Outliers
Journal Article	Pre	3.6	2.4
Peer Reviewed	Post	3.7	1.1
Journal Article	Pre	1.7	1.9
	Post	1.5	1.8
Conference Proceedings	Pre	3.0	1.8
Peer Reviewed	Post	2.2	0.9
Conference Proceedings	Pre	1.2	0.9
	Post	1.2	0.6
Abstract	Pre	2.6	0.4
Peer Reviewed	Post	3.9	0
Abstract	Pre	0.1	0.1
	Post	0	0
Presentation – Invited	Pre	7.9	6.6
	Post	6.4	6.1
Presentation – Contributed	Pre	16.1	5.2
	Post	4.9	4.7
Presentation – Poster	Pre	0.8	0.3
	Post	1.0	0.3
Book	Pre	0.4	0.5
	Post	0.2	0.2
Book Chapter	Pre	0.5	0.4
	Post	1.0	0.8
Article – Working Paper	Pre	0	0
	Post	0	0
Article – Popular Press	Pre	8.3	9.4
	Post	4.6	5.7
Report	Pre	3.4	2.9
	Post	1.6	0.6
Website	Pre	0.2	0.3
	Post	1.1	1.3
Illustration	Pre	0	0
	Post	0	0
Exhibit	Pre	0	0
Refereed	Post	0	0
Exhibit	Pre	0.9	1.0
	Post	0.5	0.7
Design Competition	Pre	0.3	0.3
Refereed	Post	0.1	0.1
Creative Work, Design/Planning Project	Pre	1.3	1.2
	Post	0.5	0.6
Built Work	Pre	0.1	0.1
	Post	0	0
Award	Pre	2.9	3.0
	Post	2.4	2.1
External Funding	Pre	\$610,024	\$344,915
	Post	\$266,665	\$81,146

Table 3. Mean yearly productivity by scholarly output category

Category	Tenure Timing	Mean Yearly Productivity	Mean Yearly Productivity excluding Outliers
Journal Article	Pre	0.6	0.4
Peer Reviewed	Post	1.19	0.35
Journal Article	Pre	0.28	0.31
	Post	0.48	0.58
Conference Proceedings	Pre	0.5	0.3
Peer Reviewed	Post	0.71	0.29
Conference Proceedings	Pre	0.2	0.15
	Post	0.38	0.19
Abstract	Pre	0.43	0.06
Peer Reviewed	Post	1.26	0
Abstract	Pre	0.01	0.01
	Post	0	0
Presentation – Invited	Pre	1.31	1.1
	Post	2.07	1.97
Presentation – Contributed	Pre	2.68	0.86
	Post	1.58	1.52
Presentation – Poster	Pre	0.13	0.05
	Post	0.32	0.09
Book	Pre	0.06	0.08
	Post	0.06	0.06
Book Chapter	Pre	0.08	0.06
	Post	0.32	0.25
Article – Working Paper	Pre	0	0
	Post	0	0
Article – Popular Press	Pre	1.38	1.56
	Post	1.48	1.84
Report	Pre	0.56	0.48
	Post	0.51	0.19
Website	Pre	0.03	0.05
	Post	0.35	0.42
Illustration	Pre	0	0
	Post	0	0
Exhibit	Pre	0	0
Refereed	Post	0	0
Exhibit	Pre	0.15	0.16
	Post	0.16	0.22
Design Competition	Pre	0.05	0.05
Refereed	Post	0.03	0.03
Creative Work, Design/Planning Project	Pre	0.21	0.2
	Post	0.16	0.19
Built Work	Pre	0.01	0.01
	Post	0	0
Award	Pre	0.48	0.5
	Post	0.77	0.67
External Funding	Pre	\$101,670	\$57,485
	Post	\$86,299	\$26,260

This emphasis is reflected in the way faculty scholarship is presented in vita, which can appear highly variable without widely understood and adhered to definitions of scholarly products. In lieu of establishing specifications for scholarly products in the field of landscape architecture, it would be beneficial if landscape architecture faculty adhered more closely to commonly accepted definitions of scholarly products.

For example, the results for invited presentations are questionable. It was difficult to evaluate whether the presentations indicated as 'invited' met the definition of an invited presentation. Often the researchers defaulted to the descriptor reported by the participants which resulted in high initial researcher agreement. However, anecdotally it appears that the term is being misused and the number of invited presentations is grossly overestimated. No participants reported the independent distribution of working papers. It is very probable that this is the result of confusion with non-peer reviewed journal articles. The vast majority of the peer reviewed abstracts are associated with the annual conference of the Council of Educators in Landscape Architecture (CELA). There are very few other outlets which employ a similar dissemination strategy of peer reviewed abstracts. Landscape architecture faculty members are endeavoring to maximize this outlet during the tenure review period.

Similarly, the results for exhibited work, and other creative work, as a category of scholarly productivity are limited. This study focused solely on whether exhibited work was subject to a recognizable peer-review process as a measure of the scholarly significance of the work. However, there are a number of measures of the significance of creative works which are not well articulated in the field of landscape architecture. While only two participants documented exhibited work, perhaps reflecting institutional scholarly priorities, it was difficult to assess whether the exhibited work underwent a peer-review process, and more difficult to identify alternative measures of significance. Landscape architecture scholars engage in creative works may wish to be more articulate regarding the significance of their work, and the field may wish to establish credible standards for evaluating the significance of creative works.

The results of this study are similar to those reported by Milburn and Brown (2003) in suggesting that a minority of landscape architecture faculty are responsible for a majority of the scholarly productivity. A comparison of scholarly productivity between the two outlying participants

and the remainder of the sample indicates that the two outlying participants are responsible for over 22% of the scholarly productivity during the tenure evaluation period. When considering all of the participants, the results suggest that faculty productivity increases somewhat post tenure, and significantly so for peer reviewed journal articles. However, it appears that mean faculty productivity in fact falls post tenure when the two outlying participants are excluded from the results. The two outlying participants are responsible for over 39% of the scholarly productivity post tenure award. In addition, the 55% reduction pre to post tenure in external funding is surprising if one assumes that an experienced faculty member is better positioned to garner funding. The findings thus suggest that faculty productivity decreases immediately post tenure, as well as reiterating that a minority of landscape architecture faculty members are responsible for a majority of the scholarly productivity.

The reasons behind these findings should be examined in the future, but are likely due to a minority of landscape architecture faculty being academically trained for the scholarly demands of the academic environment. A careful examination of the results supports this assertion in that productivity measured for scholarly categories that are often less valued in the academic environment, such as exhibits, popular press articles, and contributed presentations, actually rises when the outlying participants are excluded. While the scholarly categories typically most valued in the academic environment, such as peer reviewed publication, are lower. When the outlying participants are included, the opposite is true.

However, some caution should be exercised as the data are reported for the six years of the tenure period, while productivity post tenure is reported for individual periods that together averaged just over three years. Interestingly, very few participants ($n=2$) were awarded tenure in the last two years.

5.1 Limitations

This study has a number of limitations. We were unable to evaluate the level of responsibility individual participants had for externally funded research as few faculty members reported whether they were the principal or co-principal investigator. We were unable to assess the level of responsibility for multiple author publications as few respondents reported their role in the publication. Nor were we able to assess the role played in individual faculty member's professional practice experience or whether their experience was academic or

professional practice experience. Guest or invited jury participation was not measured in this study given the variability of reporting.

Most unfortunately, there are a host of well-studied factors which influence scholarly productivity, such as age, gender, subfield specialization, collaboration, etc., which the authors did not assess [see Helsi and Lee (2011) for a more complete presentation of these factors]. Specifically, we were unable to accurately assess faculty instructional loads. Teaching in landscape architecture is time intensive. With studio-based curricula and faculty/student ratios being accreditation requirements, landscape architecture faculty typically have high student contact time overall as well as per credit hour, and labor intensive teaching loads (Milburn et al., 2001). The high instructional load is often offered as justification for the low scholarly productivity among landscape architecture faculty. However, we were unable to accurately assess instructional load as very few respondent's curriculum vita indicated the number of credits or contact time for the listings of courses taught. In addition, the difference between academic institutions' credit equivalents, such as the difference between semester and quarter credits, was not known.

Lastly, there were a number of non-responsive programs and faculty members. Is the failure of faculty to respond associated with lower confidence in their scholarly productivity and thus a wish to not self-report? If so, we can expect that the actual scholarly productivity rates of landscape architecture faculty are lower than reported here. Conversely, could non-respondents have been less apt to respond due to high engagement in scholarship? The answer to these questions, while important to ask, may offer minimal statistical change given the number of non-respondents.

6 IMPLICATIONS

The purpose of this study was to establish a current understanding of landscape architecture faculty scholarship. The findings indicate that scholarly productivity in landscape architecture is low overall and falls somewhat after the awarding of tenure. During the evaluation period for tenure faculty members focus on more commonly valued categories of scholarly output and then on less commonly valued categories of scholarly output following the awarding of tenure. In addition to establishing the scholarly productivity rates of landscape architecture faculty, the most significant finding of this study suggests that a minority of landscape architecture faculty are responsible for a majority of the scholarly productivity. Considered

together, the overall low scholarly productivity and a minority of faculty accounting for the majority of the scholarly productivity points toward a critical need for greater preparation of the landscape architecture academy in conceptualizing, acquiring support for, conducting, and reporting meaningful research. Doing so will lead to greater success in the academic environment, support for evidence-based professional practice, and provide a much needed theoretical foundation for the future of landscape architecture.

Despite national discussions regarding the future of the tenure model in higher education, the majority of new and emerging landscape architecture faculty positions employ this system. Consequently, success for the emerging faculty nationally will rely upon effective performance within the tenure track system. In a climate of increasing demands for transparency and accountability by the public and legislators, emerging academics can expect to face calls for performance at or above national standards. Doing so within the realm of scholarship requires clarity in benchmarks among peers at peer institutions. This study established a first such baseline for one program, and offers a rare look into metrics for various forms of scholarship. To augment existing bases for defining national standards (e.g., external expert reviewers' opinions, peer perceptions by voting faculty peers), quantified standards represent a gap in the process that this study begins to address. Future efforts to reduce the gap could improve data through a consistent, annual survey that analyzes faculty productivity from a larger and more diverse cohort of landscape architecture programs. Despite means to improve future iterations of this study, the current findings offer a foundation for understanding productivity among successful early career scholars in the discipline.

7 REFERENCES

- Chen, Z, Clements, T, Miller, P, & Powers, M. (2011). How and why we do research: Faculty attitudes toward the research in landscape architecture. In R. Berney (Ed.) *Urban Nature: 2011 Proceedings of the Council of Educators in Landscape Architecture* (p.155). Los Angeles, CA: Figueroa Press.
- Chenoweth, R. (1992). Hype and reality; research and theoretical thinking in landscape architecture. *Landscape Architecture* 82(3), 47-48.
- Deakin University (n.d.). Definitions of research and output categories. Accessed on January

23, 2014. Retrieved from <http://www.deakin.edu.au/research/admin/pubs/reports/database/dynamic/output/cat/catdef.php#J6>.

Deming, M. E., & Swaffield, S. (2011). *Landscape Architectural Research: Inquiry, Strategy, Design*. New York: John Wiley & Sons.

Dundar, H., & Lewis, D. R. (1998). Determinants of research productivity in higher education. *Research in Higher Education* 39(6), 607-631.

ERA (2012). *Excellence in Research for Australia*. Canberra: Australian Research Council.

Fairweather, J. S. (2002). The mythologies of faculty productivity: Implications for institutional policy and decision making. *Journal of Higher Education*, 26-48.

Fox, M. F. (2005). Gender, family characteristics, and publication productivity among scientists. *Social Studies of Science* 35(1), 131-150. doi:10.1177/0306312705046630.

Gobster, P. H., Nassauer, J. I., & Nadenicek, D. J. (2010). Landscape journal and scholarship in landscape architecture: The next 25 years. *Landscape Journal* 29(1), 52-70. doi:10.3368/lj.29.1.52.

Graneheim, U. H., & Lundman, B. (2004). Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* 24(2), 105-112.

Hesli, V. L., & Lee, J. M. (2011). Faculty research productivity: Why do some of our colleagues publish more than others? *PS: Political Science & Politics* 44(02), 393-408. doi:10.1017/S1049096511000242.

HERDC (2012). *Higher Education Research Data Collection; Specifications for the Collection of 2011 Data*. Canberra: Department of Industry Innovation, Science, Research and Tertiary Education.

LaGro, J. A. (1999). Research capacity: A matter of semantics? *Landscape Journal* 18(2), 179-186. doi:10.3368/lj.18.2.179.

Milburn, L.-A. S., Brown, R. D., & Paine, C. (2001). "... Research on research": research attitudes and behaviors of landscape architecture faculty in North America. *Landscape and Urban Planning* 57(2), 57-67.

Milburn, L.-A. S., & Brown, R. D. (2003). The relationship of age, gender, and education to research productivity in landscape architecture faculty in North America. *Landscape Journal* 22(1), 54-62. doi:10.3368/lj.22.1.54.

Milburn, L.-A. S., Brown, R. D., Mulley, S. J., & Hilts, S. G. (2003). Assessing academic contributions in landscape architecture. *Landscape and Urban Planning* 64(3), 119- 129. doi:10.1016/S01692046(02)00204-9.

Palmer, J. F., Smardon, R. C., & Arany, J. (1984). Summary of the landscape architecture research needs survey. *Agora (Winter)*, 17- 19.

Prpić, K. (2009). *Beyond the Myths about the Natural and Social Sciences*. Zagreb: Institute for Social Research.

Rudd, E. (1988). The evaluation of the quality of research. *Studies in Higher Education* 13(1), 45-57. doi:10.1080/03075078812331377955.

Sorcinelli, M. D. (2002). New conceptions of scholarship for a new generation of faculty members. *New Directions for Teaching and Learning* 2002(90), 41-48.