Reading the Landscape Architecture Body of Knowledge Survey Data[3]

Landscape Architectural Knowledge, its Time of Acquisition, and the Command Expected at Different Career Stages

The profession of Landscape Architecture is highly diverse in the range of issues faced by contemporary practice, and hence aspiring professionals are expected to have been exposed to a broad range of topics. Of the range of knowledge areas examined by this study most respondents are agreed that the first professional degree program is the principal career stage for acquiring an operational base that can later be expanded and refined.

However, for some knowledge areas there is strong agreement that gaining that knowledge should be focused in the first professional degree, whereas for other areas many think the knowledge may be gained through a post-professional degree or through learning while in practice. Some respondents believe certain key knowledge areas should be acquired prior to university.

Overlaid on the time of acquisition is the extent of mastery of the knowledge to be expected at the key career stages—for example, time of first professional degree vs. time of taking full professional responsibility. Respondents are thoughtfully discriminating in identifying their expectations for the degree of command of knowledge expected at those stages.

To illustrate how the data that have been gathered might be interpreted, in our first category of responses, Landscape Architecture History and Criticism, 97.25 percent of the respondents believed that knowledge of the history of landscape architecture and allied professions should be gained during the first professional degree, to the extent of good Comprehension of the area at time of degree, advancing to Application of the knowledge to solve problems at the time of taking professional responsibility (Table 11.) Historic preservation principles, however, were felt critical at first degree level by a lesser number, 60.78 percent, while 23.53 percent expect the knowledge to come from post-professional degree work and 11.77 percent expect knowledge to be gained on-the-job or through continuing education. This different pattern of responses is mirrored by expectations for command split between exposure and comprehension at first degree, and between exposure, comprehension and application at taking professional responsibility (Table 12.) The difference between these two sets of responses indicates that the survey respondents largely agreed that knowledge of landscape history gained in a first degree program is of central importance to the profession at large, whereas historic preservation is an area of particular expertise important to those practicing in that area but of less importance to others. Any required specialized knowledge is expected to be gained through extra study beyond the first degree.

Table 11: Time of Acquisition

	Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont. Ed.
I. Landscape Architecture History and Criticism							
history of landscape architecture and allied professions	0.00	1.57	97.25	0.39	0.78	0.00	0.00
historic preservation principles	1.96	0.39	60.78	23.53	3.14	3.53	5.10

Table 12: Command at Key Stages in Professional Development

	Command at time of First Professional Degree						Command at time of Taking Professional Responsibility				
	Not req	Expos.	Comp.	Appl.	Mastery		Not req	Expos.	Comp.	Appl.	Mastery
I. Landscape Architecture History and Criticism											
history of landscape architecture and allied professions	0.39	13.73	58.82	23.53	2.75		1.18	9.80	29.41	48.63	9.80
historic preservation principles	4.31	39.61	38.43	15.29	1.18		3.14	21.96	27.06	38.04	8.63

These kinds of distinctions continually recur. In the following sections we will identify examples of some broad categories of responses found throughout the survey that may be used to guide further examination.

[3] Prepared by Brian Orland, FASLA, on behalf of the LABOK Task Force.

Knowledge Area Categories Emerging from the Survey Responses

The numerical responses suggest that respondents are identifying Knowledge categories they regard differently in terms of the desired time of acquisition and the level of skill expected at stages of professional development. The categories outlined here are preliminary and are offered as a starting point for further and more detailed study.

- Core of the first Professional Degree
- Context for Professional Practice
- More Specialized Knowledge
- Important Areas for Post-Professional Degree and In-practice Acquisition

The first two categories include a wide range of topics with focused (70-100 percent of respondents) expectations for acquisition during the first professional degree. Within these responses there are distinctions that further divide the category. For some areas, core skills for practice, a relatively high level of command, Application, is expected on acquiring the first professional degree. For others, respondents expect a lesser level of command, Comprehension, on gaining the first degree.

Core of the First Professional Degree

The first category encompasses the core areas of knowledge that define professional practice, enjoying focused expectation for inclusion in the first degree and with command expected at the level of ability to Apply the knowledge at that stage (>40 percent). Command is expected to be at the level of Mastery at the point of taking professional responsibility (>40 percent). This category includes: use of land information sources; understanding of natural site conditions and ecosystems; design creativity and process; aesthetic principles; natural factors; influence of context on design; accessibility regulations; wehicular and pedestrian circulation; grading, drainage and stormwater; erosion control; roles of visual communication; and graphic presentation techniques (Table 13).

Table 13: Core of the First Professional Degree—Distribution of Responses by Percent for Knowledge Statements

		Time of Acquisition							Command of Knowledge at Time of Degree					Command of Knowledge at Time of Professional Responsibility				
		Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont Ed.	Not req	Expos.	Comp.	Appl.	Mas-tery	Not req	Expos.	Comp.	Appl.	Mas-tery
II. Natural and Cultural Systems																		
3.	land information sources	0.00	0.78	92.94	1.18	4.31	0.78	0.00	0.39	8.63	33.33	49.02	7.06	0.00	3.92	4.71	45.10	45.49
5.	natural site conditions and ecosystems	0.00	6.27	89.41	0.78	2.75	0.39	0.00	0.00	2.35	28.63	57.65	9.80	0.00	1.57	6.27	46.67	43.14
III. Design and Planning Theories and Methodologies																		
8.	creativity and process including design theory and problem-solving strategies	0.00	10.20	86.27	1.18	0.78	0.78	0.00	0.39	2.75	20.00	67.06	9.41	0.00	0.39	5.88	36.86	55.69
9.	aesthetic principles of design	0.00	11.76	83.53	1.18	1.18	1.18	0.00	0.39	3.53	25.10	58.43	11.76	0.00	1.18	7.84	42.35	47.45
11.	natural factors such as ecological relationships	0.39	8.63	82.35	3.53	3.14	0.00	0.39	0.78	7.06	36.08	49.02	6.27	0.78	2.75	10.59	51.76	32.55
13.	influence of context on design, planning, and management decisions	0.00	0.39	72.16	10.20	7.45	6.67	1.18	0.78	9.41	38.04	46.67	4.71	0.39	2.75	9.80	45.10	40.00
VI. Site Design and Engineering: Materials, Methods, Technologies and Applications																		
35.	accessibility regulations	0.00	1.96	77.25	4.31	11.76	1.96	2.35	1.57	18.43	34.51	40.78	4.31	0.78	2.75	11.76	42.75	41.18
37.	elements of vehicular and pedestrian circulation systems and their design requirements	0.00	0.78	92.55	0.78	3.53	0.39	1.57	0.39	7.45	31.37	55.69	4.71	0.00	2.35	6.27	43.53	47.45
42.	grading, drainage and stormwater treatment	0.00	1.18	89.41	2.35	2.35	0.78	0.00	0.00	1.57	23.92	65.88	5.88	0.00	1.57	7.84	33.73	54.51
VIII. Communication																		
61.	the roles of visual communication, including photographic and video documentation	0.00	2.35	73.33	5.49	9.02	4.71	2.35	0.78	21.96	29.02	44.71	1.96	1.57	6.27	17.65	52.16	20.39
62.	graphic presentation techniques, systems and symbols	0.00	1.96	89.41	0.39	3.53	0.78	0.39	0.00	7.06	23.14	58.82	9.02	0.39	1.96	10.59	37.25	47.06

Context for Professional Practice

The second category might be characterized as those knowledge areas that provide the context for professional practice and includes history; patterns of land use and built form; social and cultural influences on design; human factors; visual resource management; urban landscape; planning principles; conservation of natural resources; ecological planning principles; design for special populations; roadway design principles; landscape maintenance; structures; ethics; and social responsibility. This category is somewhat coherent in representing knowledge of central importance to the profession to be gained at first degree (Comprehension >40 percent), developing into practical design office skills at the time of taking professional responsibility (Application >40 percent), (Table 14).

Table 14: Context for Professional Practice—Distribution of Responses by Percent for Knowledge Statements

		Time of Acquisition							Command of Knowledge at Time of Degree					Command of Knowledge at Time of Professional Responsibility				
		Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont. Ed.	Not req	Expos.	Comp.	Appl.	Mas-tery	Not req	Expos.	Comp.	Appl.	Mas-tery
	I. Landscape Architecture History and Criticism																	
1.	history of landscape architecture and allied professions	0.00	1.57	97.25	0.39	0.78	0.00	0.00	0.39	13.73	58.82	23.53	2.75	1.18	9.80	29.41	48.63	9.80
	II. Natural and Cultural Systems																	
4.	patterns of land use and built form	0.00	2.35	89.02	4.71	1.96	1.96	0.00	0.39	9.02	42.75	40.39	5.88	0.00	3.92	14.51	51.37	29.02
6.	social and cultural influences on design	0.00	5.49	73.73	15.29	1.96	1.18	0.78	0.39	20.39	40.78	33.33	3.14	0.00	9.02	21.18	49.41	18.04
	III. Design and Planning Theories and Methodologies																	
10.	human factors such as behavior, perception, psychological and sensory response	0.00	5.88	75.69	9.80	3.53	0.78	1.96	0.39	12.16	45.49	36.47	4.31	0.00	5.10	19.61	51.76	21.57
	V. Design and Planning and Management at Various Scales and Applications																	
22.	visual resource assessment	1.96	0.00	74.51	11.76	5.10	2.75	2.35	4.71	27.45	41.57	24.71	1.57	3.53	14.51	22.75	41.96	16.86
24.	urban landscape	0.78	0.39	83.14	8.24	2.75	1.96	1.57	0.39	15.29	52.16	30.98	1.18	1.18	5.10	23.14	51.37	18.43
25.	planning principles including regional community and neighborhood planning	0.78	0.00	72.55	16.86	2.75	3.92	1.96	1.18	18.82	48.63	29.80	1.57	1.96	2.75	27.45	48.24	19.22
26.	conservation of natural resources	0.78	11.76	73.33	6.67	3.14	1.18	1.57	0.78	12.55	44.71	36.47	5.49	1.18	4.31	16.47	49.80	27.84
28.	ecological planning principles	1.18	2.35	80.39	7.45	3.53	1.18	1.96	0.78	16.86	43.92	33.73	3.92	0.78	6.27	21.18	45.49	24.71
	VI. Site Design and Engineering: Materials, Methods, Technologies and Applications																	
34.	design needs for special populations	0.39	1.18	68.63	11.37	7.84	3.14	5.88	2.35	27.45	47.06	22.35	0.39	1.18	6.27	21.57	51.76	18.43
36.	roadway design principles	0.39	0.39	84.71	5.10	4.31	3.92	0.39	1.57	21.18	39.22	35.29	1.96	1.57	6.27	23.14	47.84	20.78
38.	landscape maintenance techniques, materials, equipment, and practices	1.57	2.35	69.02	5.10	13.73	5.10	2.75	3.14	30.59	37.25	27.84	1.18	0.39	8.24	25.88	44.31	20.78
44.	erosion and sedimentation control	0.00	0.39	78.43	3.14	10.59	3.14	2.35	1.96	13.73	40.78	39.22	3.14	1.18	2.75	16.08	49.41	29.41
48.	structural considerations	0.78	0.00	81.96	3.14	6.67	5.88	1.18	1.96	23.53	42.75	30.20	1.57	0.78	7.84	21.18	45.10	24.71
	IX. Values and Ethics in Practice																	
65.	environmental ethics	0.78	11.37	67.06	7.84	4.31	3.14	1.18	1.57	20.00	48.24	22.35	4.31	1.57	5.88	18.82	46.27	23.92
66.	social responsibility in design	0.39	5.88	72.55	5.88	5.49	3.14	1.96	0.78	19.22	48.24	23.92	3.14	1.57	4.31	17.25	45.49	27.06

More Specialized Knowledge Areas

Historic preservation principles was already cited as an example of a topic area of great interest to some sectors of the profession but less so for others. Such topics are identified as appropriate to the first professional degree by 40-69 percent of respondents with expected levels of command ranging from Exposure to the topic to Application. In all cases the Application level of Command is expected at the time of taking professional responsibility.

Topics where a principle source of knowledge may be the post-professional degree include: historic preservation principles; relationship between human and natural systems; research methods; therapeutic design; communication methods; photogrammetry and remote sensing; rural analysis; water resource management; wetland management; floodplain management; biofiltration; user surveys (Table 15).

Table 15: Specialized Topics—Post-Professional Study—Distribution of Responses by Percent for Knowledge Statements

		Time of Acquisition							Command of Knowledge at Time of Degree					Command of Knowledge at Time of Professional Responsibility				
		Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont Ed.	Not req	Expos.	Comp.	Appl.	Mas-tery	Not req	Expos.	Comp.	Appl.	Mas-tery
I. Landscape Architecture History and Criticism																		
2.	historic preservation principles	1.96	0.39	60.78	23.53	3.14	3.53	5.10	4.31	39.61	38.43	15.29	1.18	3.14	21.96	27.06	38.04	8.63
III. Design and Planning Theories and Methodologies																		
12.	relationship between human and natural systems	0.39	3.53	68.24	18.04	3.53	2.35	1.57	0.78	12.94	39.61	42.35	3.92	0.78	3.14	16.08	50.20	28.24
14.	research methods including data collection, interpretation, and application of results	0.39	7.84	51.76	29.80	4.31	2.75	1.18	1.96	17.65	29.02	42.75	7.45	3.14	5.88	17.65	43.14	29.41
15.	therapeutic aspects of design	4.31	0.78	42.35	32.94	3.53	4.71	10.20	8.24	36.08	36.47	18.04	0.39	7.06	15.69	31.76	36.47	7.84
16.	communication and education met hods	2.35	8.63	43.14	26.27	6.67	6.67	4.71	5.49	20.78	30.59	37.25	4.71	3.14	9.02	18.82	43.14	24.71
V. Design, Planning and Management at Various Scales and Applications																		
21.	photogrammetry and remote sensing	6.27	0.00	56.08	16.86	7.06	3.53	7.45	9.80	45.49	32.16	12.55	0.00	9.02	20.78	34.90	29.41	5.49
23.	agricultural and rural landscape analysis	3.53	0.39	59.22	23.14	3.92	4.31	4.71	6.67	36.86	38.82	17.25	0.39	4.31	20.39	31.37	34.51	9.02
29.	water resource management	1.96	1.57	58.82	17.65	7.45	3.14	7.84	3.14	29.02	43.53	22.75	1.57	1.57	9.80	30.98	43.53	13.33
30.	wetland management	1.57	0.78	52.16	23.92	7.06	3.53	9.02	3.53	35.69	41.57	17.65	1.57	2.35	11.76	31.76	41.57	11.37
31.	floodplain management	1.57	0.78	52.55	21.18	7.06	4.71	9.80	4.71	33.33	40.39	20.00	1.18	3.14	11.37	31.76	43.14	9.41
VI. Site Design and Engineering: Materials, Methods, Technologies and Applications																		
43.	biofiltration and other alternative drainage methods	1.57	0.78	60.39	10.98	10.20	5.88	9.02	3.14	29.41	40.00	25.10	0.78	2.35	9.02	29.02	43.53	14.51
VIII. Communication																		
58.	determination of user values such as focus groups and surveys	3.92	1.57	39.22	18.82	13.73	13.33	6.27	8.24	44.71	32.94	12.55	0.39	4.71	12.94	30.20	42.35	7.84

More Specialized Knowledge Areas (continued)

Topics where practice may be a principle source of knowledge include: regional hazard considerations; land development policy and law; emerging trends; noise control; sustainable construction; construction technologies; utility systems; irrigation; lighting; geographic coordinate systems; specifications; construction administration; construction law; contracts; team building; interpretive methods; organizational management; and resolving moral dilemmas (Table 16).

Table 16: Specialized Topics—Gained In Practice—Distribution of Responses by Percent for Knowledge Statements

		Time of Acquisition							Command of Knowledge at Time of Degree					Command of Knowledge at Time of Professional Responsibility				
		Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont. Ed.	Not req	Expos.	Comp.	Appl.	Mas-tery	Not req	Expos.	Comp.	Appl.	Mas-tery
	II. Natural and Cultural Systems																	
7.	regional hazard design considerations	0.00	3.14	61.96	13.73	15.69	2.75	1.57	0.78	26.67	35.69	31.76	3.14	0.00	6.27	17.65	44.31	30.20
	IV. Public Policy and Regulation																	
17.	governmental policies and laws that affect the use and development of land	0.39	1.18	49.02	10.59	22.75	14.12	0.39	2.75	37.65	38.82	18.04	2.35	1.18	2.75	17.25	49.41	28.24
20.	emerging trends and issues	0.78	2.35	43.92	9.80	10.59	9.80	20.39	5.88	38.82	40.00	13.33	1.18	2.75	9.80	38.82	41.18	6.27
	VI. Site Design and Engineering: Materials, Methods, Technologies and Applications																	
39.	noise attenuation and mitigation techniques	3.14	0.78	48.24	10.59	13.33	9.41	14.51	4.71	41.96	35.69	16.47	0.39	3.14	14.12	33.33	41.57	6.27
40.	sustainable construction practices	1.96	1.57	58.43	7.06	7.84	7.45	14.12	4.31	31.37	41.96	20.78	0.78	2.75	7.84	29.80	43.92	14.51
41.	construction equipment and technologies	0.78	1.96	58.82	6.27	18.82	6.67	5.10	5.88	34.12	36.86	21.18	0.39	1.57	9.02	32.16	40.39	15.29
45.	utility systems	1.96	1.18	60.78	3.92	16.86	9.02	4.31	3.14	32.94	45.88	16.08	0.39	1.18	9.02	37.65	39.22	11.37
46.	Irrigation systems	5.10	0.00	66.67	3.53	14.12	4.71	4.31	6.67	32.94	39.61	19.61	0.78	3.14	13.73	25.49	43.53	12.94
47.	lighting systems	1.96	0.00	63.53	5.10	17.65	6.27	3.92	3.53	39.22	40.78	15.69	0.39	1.18	11.37	30.98	46.67	8.63
	VII. Construction Documentation and Administration																	
52.	geographic coordinate systems and layout techniques and conventions	1.57	0.78	62.35	7.84	16.86	5.49	1.96	5.49	26.67	38.43	25.49	1.18	3.92	7.06	25.10	43.53	17.25
53.	specification types and components for a project	0.00	0.39	64.31	1.57	21.18	8.24	1.18	2.75	31.37	38.82	25.10	0.39	0.00	2.75	16.08	49.80	29.02
55.	construction administration and details	0.39	0.00	41.96	1.57	26.67	25.10	1.18	8.24	32.55	34.90	20.78	0.78	0.39	3.92	15.69	50.20	27.06
56.	basic construction law	2.35	0.00	47.45	3.53	17.25	15.29	10.20	7.84	48.24	30.20	10.59	1.18	1.96	11.76	22.35	43.53	17.65
57.	construction contracts	0.78	0.39	44.71	3.92	17.65	25.10	4.31	10.20	38.04	36.86	10.98	1.57	0.78	6.67	21.18	42.75	26.27
	VIII. Communication																	
59.	consensus and team building	1.96	5.10	44.31	9.02	14.90	16.86	5.49	5.88	37.65	32.55	21.57	1.18	3.14	10.59	18.82	47.06	18.43
63.	interpretive methods and techniques such as information displays and brochures	3.14	0.00	49.41	5.88	21.57	9.41	8.24	8.63	30.20	29.80	28.24	0.78	6.27	9.80	23.53	45.49	11.76
	IX. Values and Ethics in Practice																	
65.	environmental ethics	0.78	11.37	67.06	7.84	4.31	3.14	1.18	1.57	20.00	48.24	22.35	4.31	1.57	5.88	18.82	46.27	23.92
68.	resolving moral and ethical dilemmas	0.39	14.51	43.53	8.63	10.59	12.55	5.10	4.71	30.20	35.29	23.53	2.75	1.57	6.67	20.39	46.67	21.18

Important Areas for Post-Professional Degree and In-practice Acquisition

Where less than 40 percent of respondents identified a topic for inclusion in the first degree, the focus may be on acquisition by other means.

Topics where a principal expectation for acquisition is post-professional study or continuing education include: land and water reclamation; and treatment of toxic materials (Table 17).

Topics where the source of knowledge is expected to be practice include: regulatory approval processes; land and development economics; construction quality control; sequencing of design; life-cycle cost analysis; conducting meetings; and public relations (Table 17).

Table 17: Post-Professional and In-Practice—Distribution of Responses by Percent for Knowledge Statements

		Time of Acquisition							Command of Knowledge at Time of Degree					Command of Knowledge at Time of Professional Responsibility				
		Not Req	Before Univ	1st deg	Post-deg	Entry-lev emp	Mid-lev emp	Cont. Ed.	Not req	Expos.	Comp.	Appl.	Mastery	Not req	Expos.	Comp.	Appl.	Mas-tery
	IV. Public Policy and Regulation																	
18.	political and regulatory approval processes	0.00	0.39	34.51	8.63	35.29	18.04	2.35	7.06	40.78	31.37	18.82	1.57	0.78	4.71	16.47	51.37	26.27
19.	land and development economics	1.18	0.78	29.80	20.39	13.33	21.96	9.80	8.63	47.45	30.98	10.98	0.78	1.96	12.16	34.90	40.78	8.63
	V. Design, Planning and Management at Various Scales and Applications																	
32.	land and water reclamation procedures including quarry, mine and landfill reclamation	3.14	0.00	38.82	28.24	5.49	8.63	13.73	10.59	46.67	31.76	9.80	0.78	5.88	23.53	37.65	25.49	6.27
33.	treatment of toxic materials	13.33	1.57	20.78	20.39	5.88	12.16	23.14	28.24	45.49	19.61	6.67	0.00	16.47	28.24	31.37	17.65	5.49
	VII. Construction Documentation and Administration																	
49.	quality control procedures for construction, such as delivery, storage, testing, etc.	3.92	0.00	25.10	5.88	32.55	24.71	4.71	18.04	43.92	27.06	8.24	0.39	2.35	9.80	28.63	45.10	10.20
50.	sequencing of design, approval, permitting, and construction activities	0.00	0.00	38.04	3.53	36.08	18.43	1.57	7.84	36.47	35.29	16.47	1.96	0.39	3.53	18.43	47.06	27.45
51.	the life-cycle cost - analysis process	3.92	0.39	27.84	7.84	18.04	27.84	11.76	16.08	43.14	30.20	7.84	0.39	5.10	14.90	34.90	35.29	7.06
	VIII. Communication																	
60.	techniques for conducting meetings	0.78	1.18	33.73	6.27	25.10	22.35	6.27	12.94	33.73	30.59	18.43	0.78	4.71	6.27	17.25	50.20	17.65
64.	public relations, outreach, and image development	3.14	1.18	29.02	11.76	17.65	22.75	11.37	16.47	33.73	32.55	14.90	0.78	7.45	9.80	26.67	38.43	14.90

Landscape Architecture Competencies Expected at Different Career Stages

While any University education is expected to impart Knowledge, a professional preparation for Landscape Architecture must include the development of Competencies—the ability of aspiring professionals to take learned Knowledge and apply it to achieve successful practice.

Respondents to this study indicate that, in all areas, Competency is initiated during or before the first professional degree and is continued, embellished and refined in practice. However, within this general trend of improving competency there are different patterns of expectation. It might be expected that specific competencies are of less importance to one mode of practice, yet critical in another. These survey results do not seek to reveal those kinds of differences but rather to look at a broader view of competency. Nevertheless, respondents appeared to be carefully discriminating in identifying how important different competencies are to nascent professionals at different stages of their careers.

For example, in the first category of responses, Landscape Architecture History and Criticism, the ability to critique and learn from precedent (Survey Item #72) and the ability to learn from fields outside landscape architecture (Survey Item #73) receive their highest rate of responses indicating that they are viewed as Important to the graduate of a professional degree program, and Very Important for someone approaching the licensing examination.

Core Competencies for Landscape Architects

Four Competencies were rated Very Important by 40 percent or more respondents at the completion of first professional degree, and correspondingly as Very Important by 80 percent or more respondents at time of taking professional responsibility (Table 18). Three of these focus on issues of Design, Planning and Management; the fourth is the area of Values and Ethics in Practice.

Table 18: Items Rated Very Important at First Degree, and Very Important at Professional Responsibility—Distribution by Percent for Competencies

		How important is this competency at completion of a first professional degree? 0 Of no importance 1 Moderately important 2 Important 3 Very Important					How important is this competency before an individual takes professional responsibility for his/her landscape architecture work? 0 Of no importance 1 Moderately important 2 Important 3 Very Important				
		Percent Responding					Percent Responding				
	Competencies	0	1	2	3	Missing	0	1	2	3	Missing
	IV. Design, Planning, and Management at Various Scales and Applications										
83	Analyze relationships among design elements by determining opportunities and constraints	0.00%	7.84%	50.59%	40.00%	1.57%	0.00%	1.18%	17.65%	79.61%	1.57%
84	Develop conceptual design, planning, and management solutions	0.00%	6.27%	47.45%	45.10%	1.18%	0.00%	1.18%	11.76%	85.49%	1.57%
85	Evaluate design alternatives to determine the appropriate solution	0.00%	5.10%	43.92%	49.80%	1.18%	0.00%	0.78%	13.33%	84.71%	1.18%
	VIII. Values and Ethics in Practice										
110	Maintain and promote professional and ethical standards	3.53%	20.78%	35.29%	40.00%	0.39%	0.00%	2.75%	16.86%	80.00%	0.39%

A significant second category of Competencies show a pattern where 40 percent or more of respondents rate them as Important at completion of the first professional degree and 60 percent or more rate them as Very Important at taking of professional responsibility (Table 19.) These items include Competencies from History and Criticism, Natural and Cultural Systems, Site Design and Engineering, and Document Preparation.

Table 19: Items Rated Important at First Degree, Very Important at Professional Responsibility—Distribution by Percent for Competencies

		How important is this competency at completion of a first professional degree? 0 Of no importance 1 Moderately important 2 Important 3 Very Important					How important is this competency before an individual takes professional responsibility for his/her landscape architecture work? 0 Of no importance 1 Moderately important 2 Important 3 Very Important				
		Percent Responding					Percent Responding				
	Competencies	0	1	2	3	Missing	0	1	2	3	Missing
	I. Landscape Architecture History and Criticism										
73	Develop an ability to synthesize and make connections between aspects of landscape architecture and disciplines outside of landscape architecture	1.18%	23.92%	50.98%	23.92%	0.00%	0.78%	6.67%	26.27%	65.49%	0.78%
	II. Natural and Cultural Systems										
74	Conduct field investigations to identify significant natural and cultural features, characteristics, and systems	1.18%	20.78%	48.24%	29.02%	0.78%	0.00%	7.84%	28.24%	63.14%	0.78%
77	Predict implications of design, planning, and management proposals on natural cultural systems both within the site and in the larger context	2.35%	28.24%	47.06%	20.78%	1.57%	0.39%	9.02%	28.63%	60.78%	1.18%
	IV. Design, Planning, and Management at Various Scales and Applications										
82	Develop a design program based on users' needs and clients' goals and resources	1.96%	16.08%	48.24%	32.55%	1.18%	0.00%	1.96%	13.33%	83.53%	1.18%
	V. Site Design and Engineering: Materials, Methods, Technologies and Applications										
86	Design for protection and management of land resources (e.g. land forms, vegetation, habitat, erosion and sedimentation control)	0.00%	14.90%	56.08%	27.45%	1.57%	0.00%	2.75%	22.35%	73.33%	1.57%
87	Design for protection and management of water resources (e.g. storm water, water supply, ground water)	0.00%	18.82%	55.69%	23.53%	1.96%	0.00%	1.96%	26.27%	70.20%	1.57%
88	Design pedestrian, vehicular, and non-motorized circulation systems	0.00%	9.02%	52.94%	36.08%	1.96%	0.00%	1.57%	20.39%	76.47%	1.57%
89	Design elements for construction considering materials, structural issues, and construction technologies	1.57%	21.57%	56.08%	19.22%	1.57%	0.00%	3.14%	24.31%	70.59%	1.96%
	VI. Construction Documentation and Administration										
90	Prepare construction documents including plans, working drawings, and technical specifications	3.92%	24.71%	50.98%	20.00%	0.39%	0.00%	0.78%	16.08%	82.75%	0.39%
	VII. Communication										
101	Prepare and deliver oral presentations such as meetings, demonstrations, and outreach	1.57%	13.73%	49.02%	34.90%	0.78%	0.39%	3.53%	27.06%	68.24%	0.78%

A third category includes Competencies judged relatively less important at time of first professional degree, yet of significantly higher importance as individuals take professional responsibility (Table 20.) These items fall in the areas of Construction Documentation and Administration, Communication, and Professional Practice.

Table 20: Items Rated Less Important at First Degree, Yet Important at Professional Responsibility—Distribution by Percent for Competencies

	Competencies	How important is this competency at completion of a first professional degree? 0 Of no importance 1 Moderately important 2 Important 3 Very Important — Percent Responding					How important is this competency before an individual takes professional responsibility for his/her landscape architecture work? 0 Of no importance 1 Moderately important 2 Important 3 Very Important — Percent Responding				
		0	1	2	3	Missing	0	1	2	3	Missing
	III. Public Policy and Regulation										
78	Identify and collect regulatory information, applicable data and required approvals governing a project (e.g., relevant laws, codes, and regulations)	9.80%	54.90%	27.45%	6.67%	1.18%	0.00%	4.71%	27.84%	66.27%	1.18%
79	Confirm code compliance (e.g. zoning, environment, and accessibility)	12.55%	45.49%	32.16%	8.24%	1.57%	0.00%	6.27%	17.25%	74.90%	1.57%
	VI. Construction Documentation and Administration										
93	Provide construction administration and observation throughout the project	38.04%	43.14%	16.08%	2.35%	0.39%	0.78%	8.63%	35.69%	54.51%	0.39%
94	Conduct project closure including review and distribution of close-out documents	47.06%	39.22%	11.76%	1.18%	0.78%	2.75%	12.55%	38.82%	44.71%	1.18%
95	Perform post construction evaluation	32.94%	44.71%	18.82%	2.75%	0.78%	1.96%	16.08%	40.78%	40.39%	0.78%
96	Perform construction services including design-build	45.88%	40.39%	12.16%	0.39%	1.18%	15.29%	34.51%	32.16%	16.47%	1.57%
	VII. Communication										
98	Maintain clear communication among collaborators through correspondence and project coordination	14.12%	34.51%	37.25%	13.73%	0.39%	0.78%	3.14%	22.75%	72.94%	0.39%
99	Develop written documentation, such as projects reports, grant proposals, and promotional materials	12.16%	42.75%	33.33%	10.59%	1.18%	1.57%	9.80%	34.12%	52.94%	1.57%
100	Create graphic materials in a variety of media	1.96%	14.90%	44.71%	38.04%	0.39%	0.39%	9.41%	38.04%	50.98%	1.18%
102	Conduct project and public meetings including preparing of meeting agendas and notes, and facilitation of the meeting	17.65%	40.78%	30.98%	10.20%	0.39%	0.78%	8.63%	37.25%	52.94%	0.39%
	VIII. Values and Ethics in Practice										
104	Manage business practices and organizations	36.47%	47.84%	13.33%	1.96%	0.39%	2.35%	14.12%	40.00%	41.96%	1.57%
105	Manage risk and liability	36.86%	42.75%	16.08%	3.53%	0.78%	1.96%	10.20%	30.20%	56.47%	1.18%
106	Negotiate and prepare client and consultant agr eements	43.92%	39.22%	12.94%	2.75%	1.18%	2.35%	9.80%	31.76%	54.51%	1.57%
107	Participate in life -long learning (e.g., a professional organization, continuing education activities)	18.82%	27.06%	31.37%	21.57%	1.18%	0.39%	9.41%	28.24%	61.57%	0.39%
108	Participate in professional and public service activities	8.63%	38.04%	39.61%	13.33%	0.39%	1.96%	16.08%	39.61%	41.96%	0.39%
109	Train, educate and mentor other professionals	36.47%	36.47%	20.00%	6.27%	0.78%	2.75%	14.90%	41.57%	40.39%	0.39%

A final category of Competencies is that of those failing to receive solid majority responses in the Very Important category at either career stage (Table 21.) They are a diverse group with the majority in the categories Landscape Architecture History and Criticism, Natural and Cultural Systems, Public Policy, and Construction Administration.

Table 21: Items Failing to Receive Consistent Importance Ratings—Distribution by Percent for Competencies

		How important is this competency at completion of a first professional degree? 0 Of no importance 1 Moderately important 2 Important 3 Very Important					How important is this competency before an individual takes professional responsibility for his/her landscape architecture work? 0 Of no importance 1 Moderately important 2 Important 3 Very Important				
		Percent Responding					Percent Responding				
	Competencies	0	1	2	3	Missing	0	1	2	3	Missing
	I. Landscape Architecture History and Criticism										
69	Develop an understanding of design as exemplified by historically significant works of landscape architecture, urban planning, civic design, and architecture	0.00%	25.49%	45.88%	27.84%	0.78%	0.78%	24.31%	42.35%	30.98%	1.57%
70	Examine economic, political, social, ecological and esthetic relationships and their influence on the development of the profession of landscape architecture	2.75%	45.88%	34.90%	16.08%	0.39%	2.35%	27.45%	42.75%	25.49%	1.96%
71	Demonstrate an understanding of the evolution of landscape architecture as an art and a profession through knowledge of its terminology, literature, personalities, and concepts	1.18%	33.33%	43.14%	21.18%	1.18%	3.92%	30.98%	34.90%	28.63%	1.57%
72	Demonstrate the ability to critique prior work and understand the relevance in addressing current issues and problems	2.35%	26.27%	50.20%	20.00%	1.18%	1.96%	10.98%	38.43%	47.06%	1.57%
	II. Natural and Cultural Systems										
75	Perform quantitative analyses to evaluate the interactions of natural and cultural features, characteristics, and systems	5.49%	38.04%	42.35%	13.33%	0.78%	2.35%	23.53%	36.08%	36.86%	1.18%
76	Perform qualitative analyses to evaluate the relationship between the natural and cultural features, characteristics, and systems	4.31%	29.41%	47.84%	17.65%	0.78%	1.18%	17.25%	37.25%	43.14%	1.18%
	III. Public Policy and Regulation										
80	Assist in the preparation of ordinances, regulations, covenants, standards, and guidelines	35.69%	50.98%	10.20%	1.57%	1.57%	7.06%	29.02%	38.43%	24.31%	1.18%
81	Influence public policies on areas such as growth and land and water management by testifying, lobbying, or preparing written documents for public distribution	41.96%	42.35%	11.76%	1.96%	1.96%	6.67%	27.45%	39.61%	24.71%	1.57%
	VI. Construction Documentation and Administration										
96	Perform construction services including design-build	45.88%	40.39%	12.16%	0.39%	1.18%	15.29%	34.51%	32.16%	16.47%	1.57%
97	Prepare management and maintenance manuals and documents	33.73%	50.98%	12.16%	1.57%	1.57%	4.71%	33.73%	36.86%	23.14%	1.57%
	VII. Communication										
103	Review and critique peer work	6.67%	31.37%	38.04%	23.53%	0.39%	5.49%	19.61%	35.69%	38.82%	0.39%