A Regional Multicultural Approach to Sustaining Wild Rice

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Improving The Landscape Design Skills of North Carolina Green Industry Professionals

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Abstract: A 2-day hands-on landscape design workshop was presented to landscape design professionals in the North Carolina green industry who had never received formal training in the design process. All attendees were satisfied, significantly increased their knowledge of landscape design, and adopted key strategies for improving their designs and design skills.

Green Industry Professionals Need Help

The population of North Carolina has grown dramatically in recent years, increasing by over 2.5 million since 1990 (N.C. Rural Economic Development Center, 2005). This has fueled construction and resulted in job opportunities in the area of landscape design that have far outpaced the availability of trained landscape designers in the green industry. To fill this niche, many lawn and landscape care professionals, nursery stock growers, and inexperienced newcomers have begun designing landscapes without possessing formal design training.

A 2-day workshop providing formal training in the landscape design process was offered for horticulture professionals. The objectives of the program were to:

1. Teach and model the elements of the landscape design process,

2. Provide hands-on design experience, guided and critiqued by instructors,

3. Encourage interaction, peer critique and the use of design vocabulary, and

4. Provide students with professional practice in presentation of their designs to clients.

Two separate sets of approximately 20 professionals attended a 2-day workshop in July 2006 and 2007. All 40 participants were in the landscape design profession, and some owned businesses that routinely designed and installed landscapes. Only one participant out of 40 had received formal training in landscape design prior to the workshop. The instructors consisted of three faculty in the Department of Horticultural Science at North Carolina State with degrees in Landscape Architecture, and two graduate students in the landscape design program at North Carolina State. Over the 2-day workshops, instructors and graduate students presented PowerPoint lectures, displayed rendered drawings as examples, and then worked with each participant individually to guide student integration of the elements of design into their personal landscape design processes. The elements of the landscape design process presented at the 2-day workshop were:

- Verbal Communication

- Professional Practice

- Landscape Evaluation

- Base Map Preparation

- Program Development

- Conceptual Diagramming

- Graphic Communication

- Developing Garden Rooms

- Compositional Elements

    ◆ Ground Line Patterns

    ◆ Theme Development

    ◆ Visual Elements

    ◆ Compositional Principles

- Studio Work Time for Practice

- Design Critique (instructors)

- Peer Review (attendees)

As a practicum, attendees interviewed a mock client couple at a nearby house. The house was already measured and drawn to scale on handouts, which sped the process and minimized tedious field work. While in studio, pictures of the site were projected on video screens for everyone to use as reference.

All 20 attendees at the July 2007 workshop were administered a post-workshop survey that elicited information about their satisfaction, prior knowledge and actions, knowledge gained, and actions to be taken as a result of the workshop. Partially completed surveys were discarded, and the 15 completed surveys were analyzed using SAS version 9.1.3 (SAS Inst. Inc., 2003). Where appropriate, means were tested using pairwise comparisons between pre- and post- self assessments of knowledge and actions.

What Attendees Learned and How It Affected Their Businesses

All respondents (n=15), consisting of eight white males and seven white females, were satisfied with all aspects of the workshop (Table 1).

Table 1.
Mean Satisfaction Responses for Participants Attending a Landscape Design Skills Workshop (n=15)

Satisfaction	Mean^z	Std Error
Relevance of information to your needs	3.4	0.16
Presentation quality of instructors	3.3	0.21
Subject matter knowledge of instructors	3.7	0.13
Training facilities	3.5	0.22
The overall quality of the training workshop	3.4	0.16
^{z}Mean assessment using a Likert-type scale; 1=Not Satisfied, 2=Somewhat Satisfied, 3=Satisfied, and 4=Very Satisfied.		

All respondents had significant changes in knowledge as a result of participating in the workshop (Table 2). The greatest change in knowledge for participants occurred for the development of a design program (mean change = 1.6; Table 2). A design program integrates the needs of the client and the site analysis into a series of design objectives to guide the overall design process. Some or all participants were familiar with various aspects of the design process indicated by the decreasing, but still significant changes in knowledge among those variables (Table 2).

Table 2.
Mean Difference Between Prior Knowledge and Post Knowledge of Landscape Design Processes
Self-Assessed by Participants Attending a Landscape Design Skills Workshop (n=15)

Knowledge	Pre^w	Post^w	Mean^x	Std Error^y	Prob > |t|^z
Program development	2.1	3.7	1.6	0.25	0.01
Styles and geometry	1.9	3.5	1.5	0.26	0.01
Conceptual diagramming	2.2	3.6	1.4	0.27	0.01
Base map preparation	2.2	3.5	1.3	0.25	0.01
Theme development	2.1	3.4	1.3	0.27	0.01
Principles of landscape design	2.3	3.5	1.3	0.21	0.01
Landscape evaluation	2.5	3.7	1.2	0.30	0.01
Steps in landscape design process	2.5	3.7	1.1	0.26	0.01
Compositional principles	2.2	3.3	1.1	0.28	0.01
^{w}Mean assessment for pre and post knowledge using a Likert-type scale; 1=Very Low (Don't know anything about this topic), 2=Low (Know very little about this topic), 3=Mid (Know about this topic but there is more to learn), 4=High (Have a fairly good knowledge but there are things to learn), and 5=Very High (Know almost					

everything about this topic).
[x]Mean Difference between pre and post knowledge assessment.
[y]Standard error of the mean for mean difference between pre and post assessments.
[z]Probability of a greater t statistic for the mean difference between pre and post assessments of knowledge.

All respondents indicated that they would adopt all aspects of the landscape design process when designing in the future (Table 3). The highest change in action taken would be adopting a grid system (mean=1.9). A grid system is created in plan view by extending lines both vertically and horizontally from primary, secondary and tertiary boundaries (i.e., house corner boundaries, window widths, and entryways). The result is a grid system on the design used to place planting areas, hardscapes, and other features into scale with the dimensions of the buildings and property. Even though this skill was indicated as having the greatest participant adoption, respondents still acknowledged that they might only do this sometimes (3.3 on post response; Table 3). The difference was their unfamiliarity with the skill prior to taking the workshop (1.4 pre-response; Table 3). The least change in action was preparing a site analysis and inventory; however respondents indicated that they were already doing this sometimes (2.9 pre-response; Table 3) prior to attending the workshop.

Table 3.
Mean Difference Between Self-Assessed Actions Taken Prior to and Post Workshop Participation for Landscape Designers Attending a Landscape Design Skills Workshop (n=15)

Actions	Pre[w]	Post[w]	Mean[x]	Std Error[y]	Prob > |t|[z]
Develop a grid	1.4	3.3	1.9	0.38	0.01
Prepare conceptual diagrams	2.2	3.7	1.5	0.29	0.01
Include transitions	2.4	3.9	1.5	0.34	0.01
Design outdoor rooms	2.1	3.7	1.5	0.29	0.01
Provide design drawings to clients	2.2	3.7	1.4	0.25	0.01
Gather GIS data from the web	2.0	3.3	1.3	0.34	0.01
Develop a base map	2.3	3.5	1.3	0.33	0.01
Prepare a site inventory and analysis	2.9	3.9	1.1	0.32	0.01

[w]Mean assessment for pre and post actions using a Likert-type scale; 1=Very Low (Not considering this), 2=Low (Considering this), 3=Mid (Doing this sometimes), 4=High (Doing this most of the time), and 5=Very High Doing this all the time).
[x]Difference between pre and post action assessment.
[y]Standard error of the mean for mean difference between pre and post assessments.
[z]Probability of a greater t statistic for the mean difference between pre and post assessments of action.

Program Improvements

Despite each workshop lasting 2 days and totaling over 12 hours of contact time, most respondents indicated that they wanted longer workshops with more opportunity for practice and critique. During the first workshop, participants suggested that all drawing activities be structured around a single design. Therefore, in the second workshop, a mock-client couple with a real home was added to provide a realistic setting around which a design program could be constructed. A follow-up focus group was planned for 6 months post-workshop to provide a multi-method model of evaluation and to determine retention of skills (Kelsey, Schnelle, & Bolin, 2005); however, a severe summer drought in 2007 in western North Carolina prevented many attendees from practicing landscape design and installation.

Conclusion

Most participants in the 2-day landscape design workshop had tremendous working knowledge of plant growth, plant selection, and plant availability for the surrounding area (personal observations of instructors). But they lacked an understanding of how to place those plants conceptually within a structured landscape design using formal landscape design practices. Participants indicated that prior to the training they had difficulty conveying their ideas to clients because they were uncomfortable with their drawing skills. As a result, they rarely presented clients with a completed design.

They indicated that after the training they would be more likely to include a drawing with their bids and were confident that this would enhance their sales as well as improve their professionalism and communications with clients. Participants highly valued the level of experience and skill of the instructors, the formal training, and the case study, which provided an opportunity for them to use their newly acquired skills and knowledge. As a result of participation in the training, participants indicated they improved their comprehension of the design process and they will make effective changes in the way they work.

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