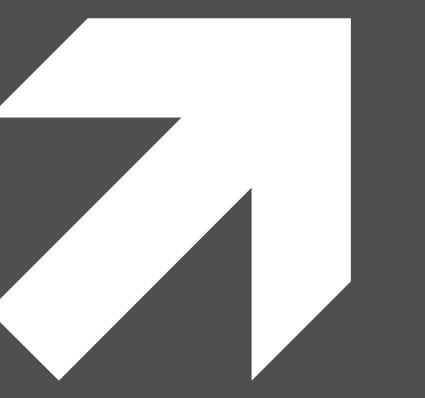


A Model for Establishing and Maintaining the Campus



Landscape as a Significant and Dynamic Outdoor

Classroom, Laboratory, and Therapy Center

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Poster Link

This is a preliminary look at ongoing research in this area - please contact me if you would like to receive a final report at the conclusion of this study.

Research has shown that plants and the landscapes around us impact our lives. Plants have been shown to reduce anxiety and blood pressure, and to have mentally restorative and psychological benefits. These benefits can include but are not limited to improving our ability to cope with stress and improving our ability to focus and concentrate.

This is a study that seeks to identify the factors that contribute to a useful and beneficial campus landscape. Faculty who teach plant science, horticulture, and environmental sciences using the campus are limited by the landscapes surrounding their university structures. Often, a hands-on, practical experience with plant material is forfeited due to lack of suitable specimens on or adjacent to campus. Surveys of recent University of Tennessee graduates in the area of Plant Sciences indicate a desire for more hands-on practice and experience contributing to their degree. The need for a high quality teaching landscape for those teaching and studying plant sciences and horticulture was identified. Often, lack of resources and a suitable demonstration landscape are to blame. Additionally, beyond the natural sciences, little effort has been given to outdoor teaching resources that could be used by other disciplines. A model of how a university can establish and maintain its campus grounds as a significant and dynamic outdoor classroom and laboratory for an array of academic disciplines are being examined.

A survey was administered using the Qualtrics web survey application. The University of Tennessee's registrar's office provided the school email addresses for those who had teaching responsibilities in the spring semester of 2014.

- O1: Determine whether or not participants are currently holding class outdoors on or off campus.
- O2: Determine experience and restrictions to holding class outdoors.
- O3: Determine what outdoor teaching resources participants think might be helpful for teaching courses in their area.
- O4: Determine participants' perception of availability of outdoor teaching resources.
- O5: Determine the level of use of outdoor teaching resources.
- O6: Identify professional and personal background characteristics of participants.



What is an Outdoor Teaching Resource?

An "outdoor teaching resource" (ODTR) is any outdoor element contained on campus that supports student learning. An example of an ODTR might be a specific tree from a religious text or a retention pond used by a biology professor.

Do you take classes outside?

Table 6. Frequency of using various teaching methods (1 = About once a semester, 2 = A few times a semester, 3 = Several times a semester, 4 = Nearly every lesson, 5 = Never (Excluded from Analysis))

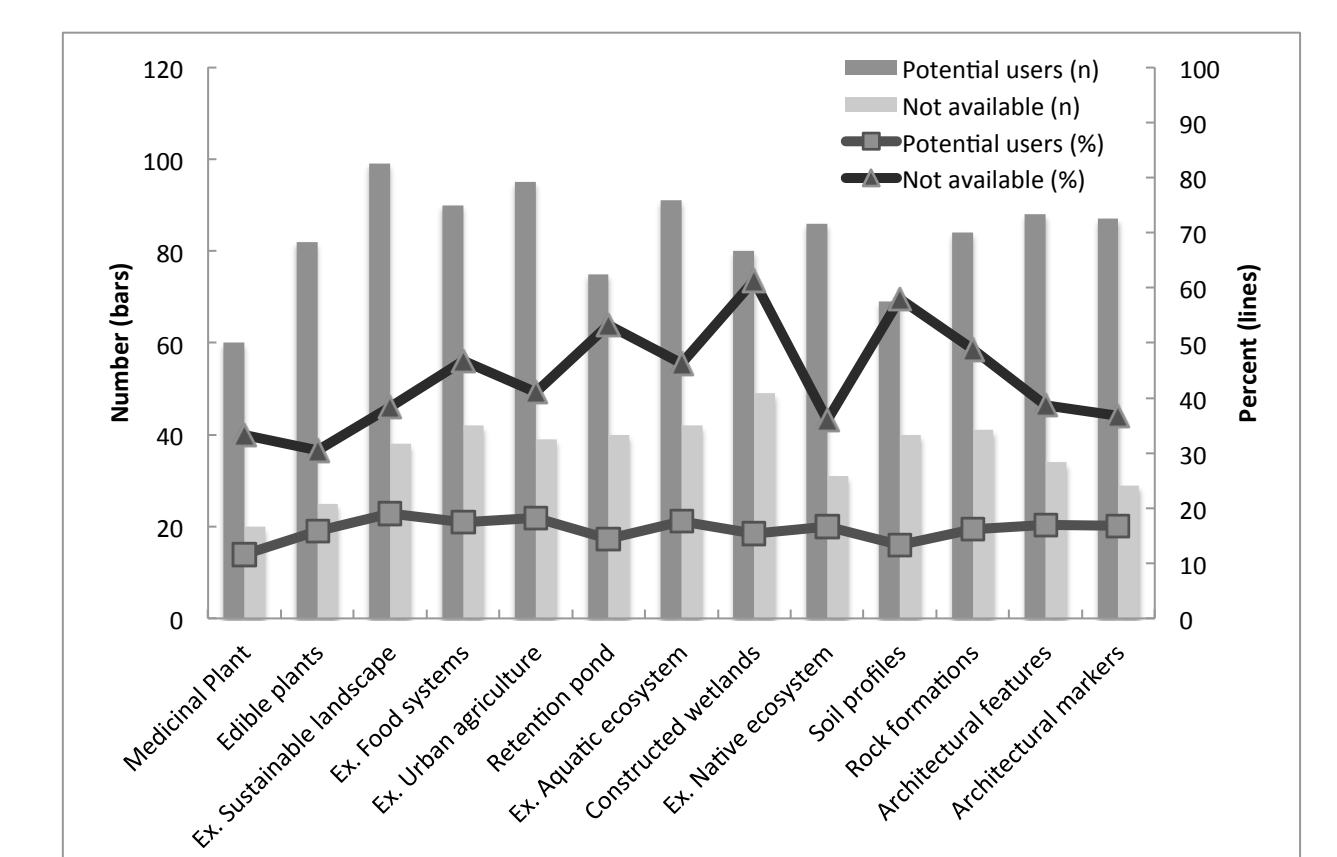
	Overall		Outdoor Teachers		Non-Outdoor Teachers	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Lectures	3.56	0.69	3.34	0.81	3.83	0.67
Discussions	3.52	0.72	3.42	0.68	3.55	0.73
Hands-on activities	3.09	0.85	3.35	0.74	2.98	0.88
Labs	3.17	0.79	3.42	0.60	3.03	0.85
Student peer groups	2.91	0.82	3.05	0.77	2.87	0.82
Service learning	2.20	1.04	2.19	0.98	2.21	1.08
Clickers or Personal Response Systems	3.45	0.77	3.43	0.79	3.46	0.78
Visual aids	3.59	0.65	3.65	0.57	3.57	0.67
Video	2.74	0.85	2.77	0.87	2.74	0.85
Guest speakers	1.86	0.78	1.95	0.75	1.83	0.79
Demonstrations	2.78	0.83	2.84	0.81	2.74	0.84
Online discussion boards, blogs or wikis	2.91	0.92	2.32	0.82	3.07	0.88
Online assignments	3.02	0.84	2.59	0.84	3.13	0.80
Research projects	1.91	0.87	2.13	0.89	1.82	0.85
Oral presentations	2.08	0.95	2.11	0.95	2.07	0.96
Flipped classroom	2.92	0.85	2.94	0.87	2.91	0.85
One-on-one instruction	2.84	0.81	2.84	0.80	2.85	0.82
Class outdoors (on or off campus)	2.05	0.96	2.05	0.96	2.00	0.90
Games	2.27	0.88	2.58	1.03	2.10	0.74
Field Trips	1.83	0.79	1.98	0.83	1.61	0.67
Charities	2.11	0.93	2.00	1.00	2.25	0.96
Clinical experiences	3.07	0.77	3.14	0.38	3.06	0.83
Other	2.61	1.09	2.75	0.96	2.27	1.16

IF NO --> Why Don't you teach outside?

Table 7. Perceived restrictions to holding class outdoors (1 = Disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Agree)

	Overall		Outdoor Teachers		Non-Outdoor Teachers	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Too noisy	3.42	1.41	2.62	1.41	3.63	0.65
Distracting for students	3.62	1.39	2.63	1.45	3.55	0.73
Distracting for instructors	3.14	1.47	2.13	1.35	2.98	0.88
Voice doesn't carry	3.16	1.47	2.43	1.39	3.03	0.85
Class size is too large	3.22	1.51	2.80	1.38	3.87	0.82
Unsuitable class environment	3.41	1.48	2.23	1.32	2.21	1.08
No projection system	3.65	1.49	2.37	1.59	3.46	0.78
Inadequate seating	3.69	1.47	2.41	1.49	3.57	0.69
No dry erase boards	3.26	1.53	2.16	1.46	2.74	0.85
Allergies	2.77	1.32	2.10	1.12	1.83	0.79
Weather	3.61	1.20	3.23	1.29	2.74	0.84
Not relevant to course material	3.42	1.56	2.00	1.32	3.07	0.88
Insects	2.63	1.31	1.78	0.99	3.13	0.80
Time constraints	3.12	1.33	2.82	1.39	1.82	0.85
Other reason - not listed	2.72	1.05	2.48*	1.14	2.07*	0.96

*Means did not differ significantly (p < 0.05) when compared to an independent samples t-test.



If they were available would you utilize these outdoor teaching resources?

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What We Know So Far

This research is still in its beginning stages. However we do know that the benefit of having a university campus that provides purposeful outdoor teaching resources for its faculty and students is worthy of exploration. This exploration must begin with understanding the needs of the individuals who teach within each distinct university. This study sought to understand how those who teach at The University of Tennessee (UTK) are currently using outdoor teaching resources. Additionally, information was gathered on how informed teaching faculty are when it comes to the availability of a variety of resources.

From comments made and survey responses it is clear that those who teach at UTK rely heavily on the use of traditional lecture methods and technology in the classroom. It is believed that many who replied to the survey do not see teaching outdoors as an option they could use with heavy frequency throughout a semester. These objections to teaching outdoors go beyond not having a projector system at their disposal. Many believe teaching outdoors is not relevant to the subject matter within their discipline. For some this may be the case. However, for others - appropriate, well thought-out and meaningful outdoor teaching resources do not exist on the UTK campus. Additionally, ODTR they would utilize for teaching their class do exist but they are not aware of their existence.

