



Student internship program as benchmarking system for sustainable practice

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Overview

- Introduction
- Existing Program
- New Approach
- Pilot Study
- Study
- Benefits and Challenges
- Lessons Learned
- Conclusion



Introduction

- Sustainable practices and technologies have entered the forefront of construction industry (Ahn and Pearce 2007).
- Establishing benchmarking system for current sustainable practices.



Benchmarking

- Benchmarking - continuous process of measuring products, services, and practices against the toughest competitors or those recognized as industry leaders (CII).



Internships

- Integral part of many programs
- Link between the classroom and the real world
- Exposure to more than the academic side of an industry
- Apply classroom material more effectively
- Encourage the development of mentoring relationships.



Existing Program

- Participation:
 - 100% of graduates had at least one summer internship experience
 - 68% enrolled in the internship for credit option for one summer.



New Approach - SLICES

- Synergistic Learning & Inquiry through Characterizing the Environment for Sustainability
- Benchmarking current sustainability related best practices in A/E/C industry via student internships.



Methodology

- Interns could help faculty collect data relating to current company practices
- Collected data would be analyzed by faculty
 - Report produced and provided to the industry
- Focus upon sustainability practices



Methodology



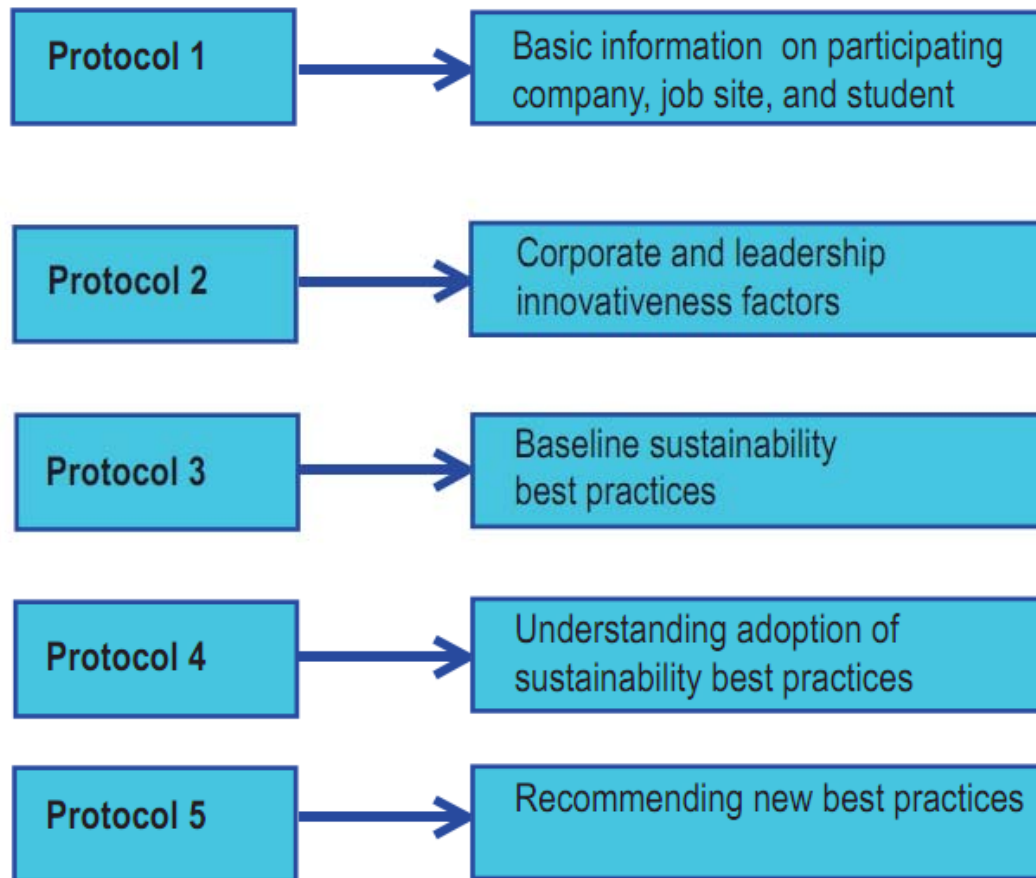


Protocol Development

- Protocols were designed to embody elements of the goals for students
- Protocols required the students to be resourceful in their data collection methods
- Forced them to move beyond their level of comfort



The Protocols



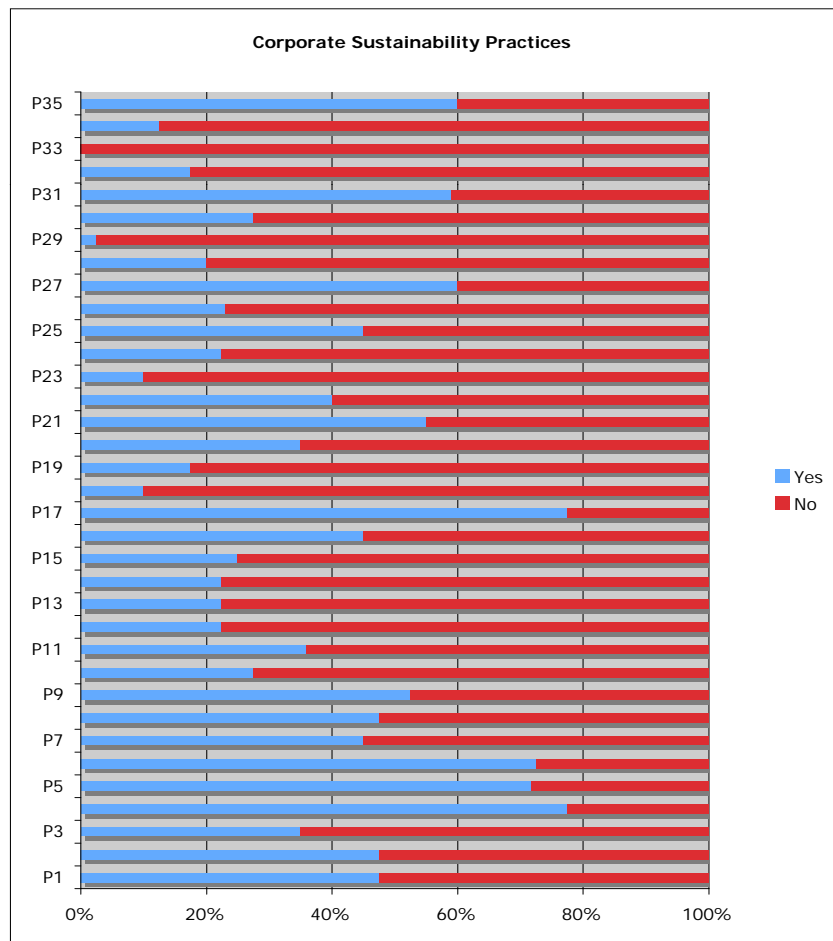


Briefing Session

- Information and instruction session
- Interactive presentation regarding interviewing protocols and practices
- Industry partners were also briefed about the changes in the program



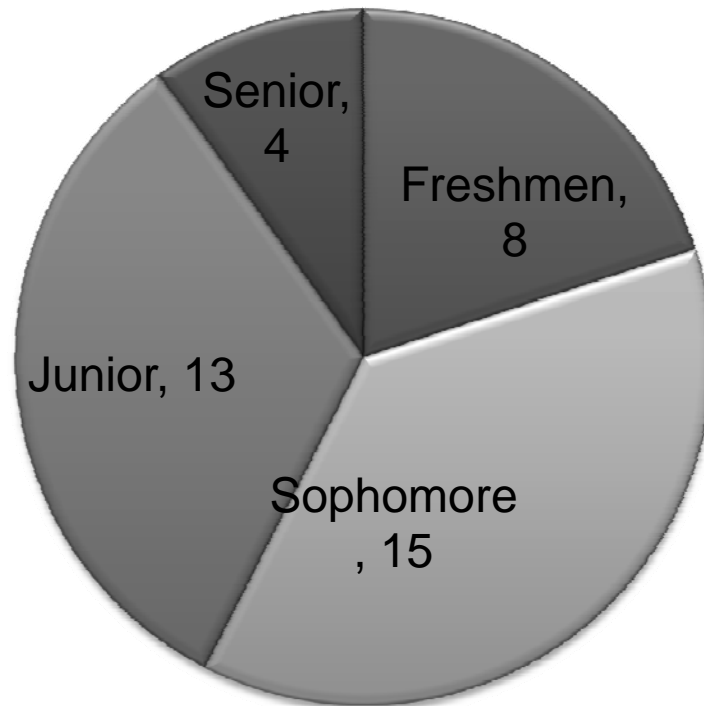
The Pilot



- Summer 2007
- 45 internship students
- 36 companies
- Benchmark survey of sustainability practices in employer companies



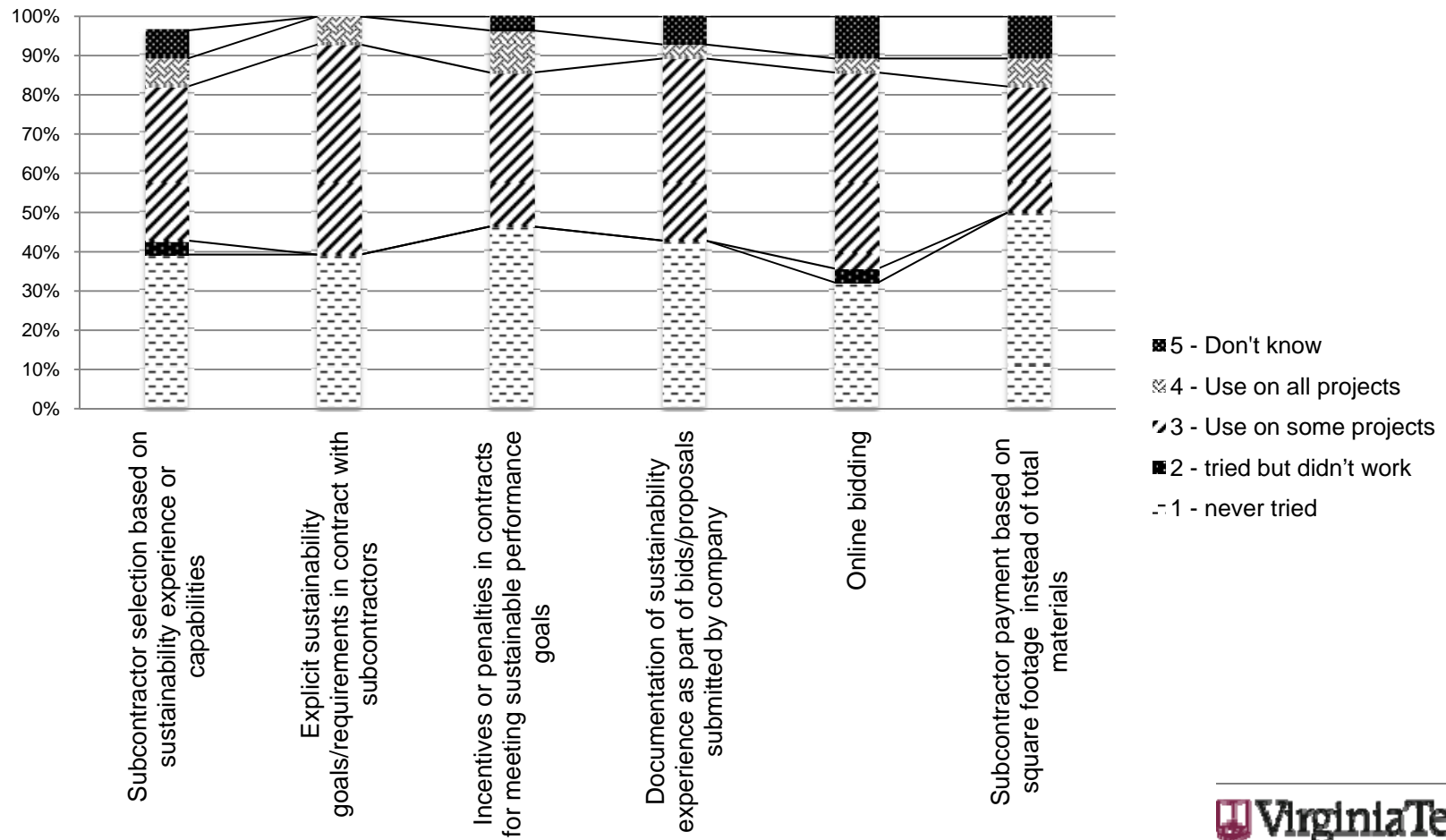
Demographics



- **Internship** – (40) students reported having prior internships.
- **Self-Employed** – (1) student reported being previously self-employed in the construction industry.
- **None** – (4) students reported having had no previous experience inside the construction industry.



Sustainability Contracting Practices





Assessment

- Pilot program
- Feedback from the students
- Review of the data collected



Student Feedback

- Protocols should be distributed to the students prior to beginning their internships.
- Protocols should be reviewed for repetitive information and should be more succinct in format.



Student Feedback

- Learned more information about their companies
- Improved comfort level of the students interviewing “higher-ups” in their companies
- Enjoyed researching sustainable practices and presenting them to their companies
- Liked the Blackboard discussion postings
- Developed a better relationship with their employers



Implementation Tips

- Pre-internship training on etiquette, interview methods, and basic communication skills
- Contact participating companies ahead of time to introduce the requirements
- Complete the first protocol during the semester before the internship
- Discuss managing priorities when collecting data.
- Faculty must be realistic about the data collected

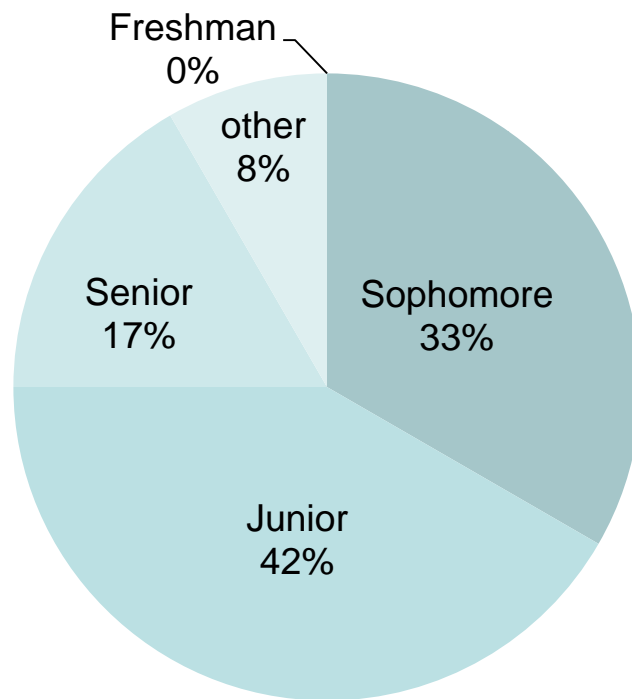


Summer 2010

- Summer 2010
- 12 internship students
- 9 companies
- Benchmark survey of sustainability practices in employer companies



Demographics



- **Internship** – (5) students reported having prior internships.
- **Self-Employed** – (2) student reported being previously self-employed in the construction industry.
- **None** – (5) students reported having had no previous experience inside the construction industry.



Implementation

- Protocols distributed to the students via a Scholar Site at one to two week increments throughout the summer.
- The students completed the protocols and submitted them through an online survey mechanism that automatically compiled data.



Online Survey

← → ↻ 🏠 <https://survey.vt.edu/survey/entry.jsp?surveyId=1272430791624> ☆

BC Internship - Survey 1

In order to earn internship credit for this course, you will be documenting your experiences and information about the company for whom you are working throughout the summer. You will assemble and synthesize data and information for five different sets of questions over the course of the internship, beginning with the following questions. The questions you will need to complete will be posted on Blackboard. Please download the questions and assemble your information before you begin to post to survey.vt.edu, since all information must be uploaded in a single session on the survey site. You can prepare your answers in Microsoft Word or another text editor, then cut and paste to survey.vt.edu if you desire. Formatting will not be preserved.

The first set of questions deals with understanding more about you, the company you plan to work for, and the job you will be undertaking throughout the summer. While you may not know the answers to these questions immediately, please do the best you can to provide answers for all the questions. You may need to contact your employer to learn more about the company and your job. Please complete the questions and post your answers to survey.vt.edu no later than 5 pm on Monday, May 10.

About You

Please enter your name (last,first).

Name

What year are you in your studies at Virginia Tech?

- Freshman
- Sophomore
- Junior
- Senior
- other:

What is your major?

(Optional) What is your gender?

- Male
- Female

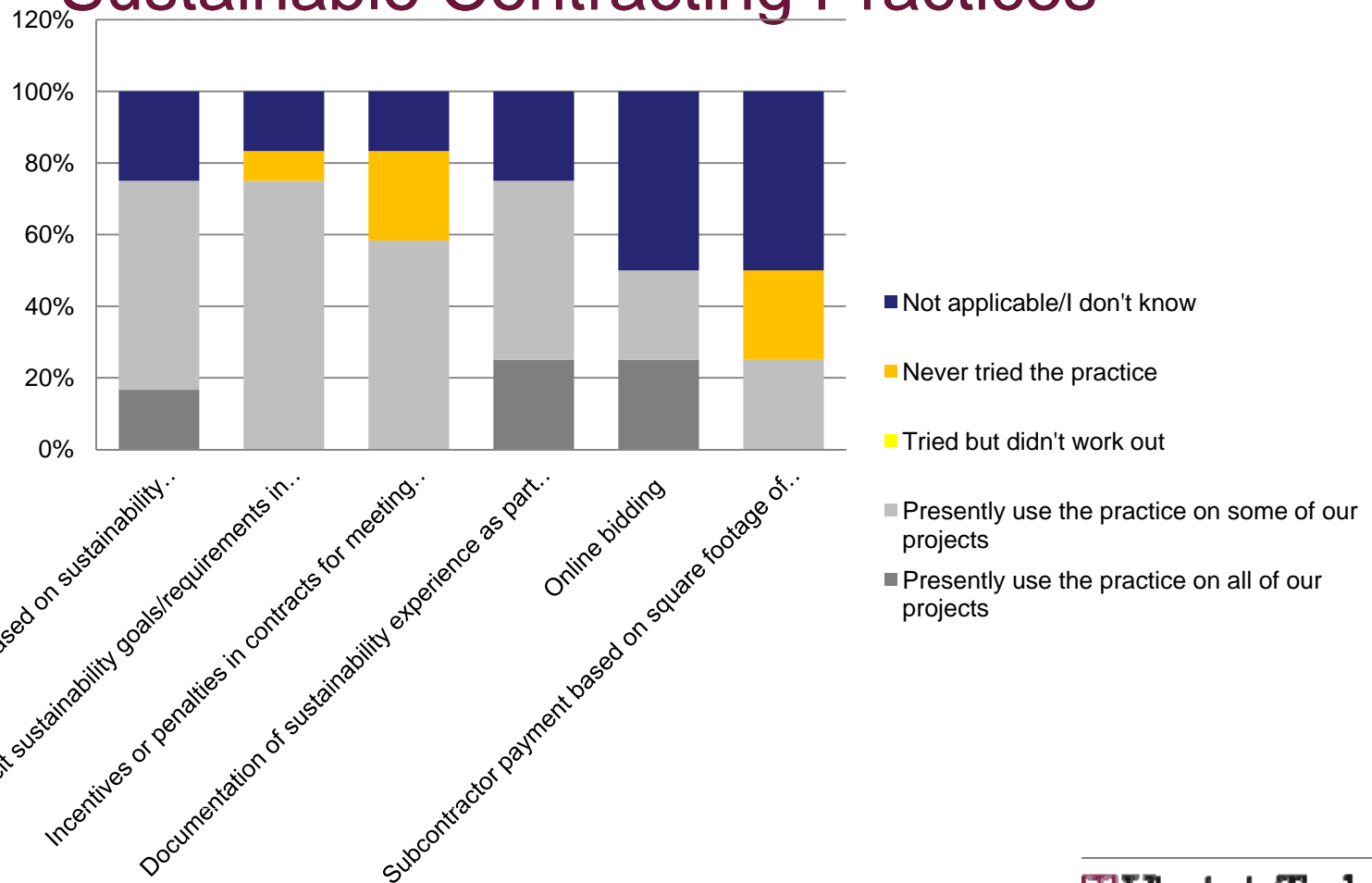


Peer-to-Peer

- Students posted comments on a discussion board hosted
- Faculty monitored the discussion board and responded to student questions and suggestions
- The goal was to enable students to learn from others experiences and for them to build their confidence relating to the completion of the protocols.



Sustainable Contracting Practices





Benefits

- Improve interpersonal skills and leadership
- Develop students abilities to complete independent research
- Increase the advancement of meta-cognitive skills
- Provide for peer-to-peer interactions across companies during the internship period



Challenges

- Develop specific, rigorous protocols that could be easily administered
- Five protocols were developed for the program
- Protocols focused upon different aspects of the adoption of sustainable construction practices



Challenges

- Obtaining adequate sample size for assessment of outcomes
- Establishing control groups for managing issues of validity and reliability of data collected



Lessons Learned

- A more rigid assessment will occur in the future
- Changes implemented in the program this upcoming summer
- The faculty are developing more rigorous assessment surveys for the industry
- More quantitative assessment measures for the student learning objectives



Conclusions

- The study met the goals that the faculty outlined by improving student skill sets.
- Industry participant will benefit from access to benchmark information
- Opportunities to expand the model to programs at other universities



Thank you for your attention

- QUESTIONS?