

Cincinnati, Ohio, United States

Using frameworks to cross interdisciplinary boundaries: Addressing wellness

Traci Rose Rider, Ph.D.

North Carolina State University

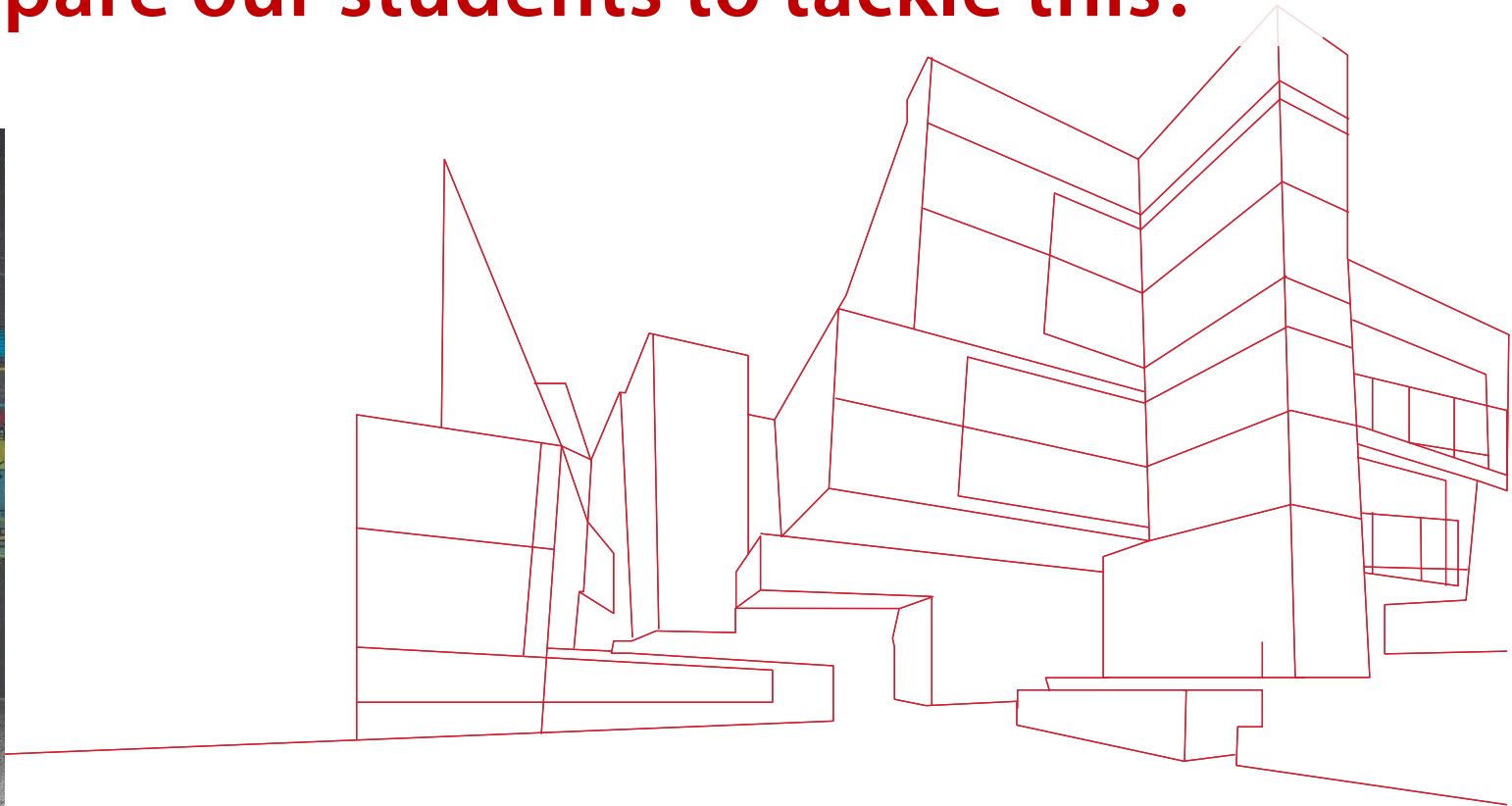


Problem statement(s):

The built environment impacts health.

Health in an interdisciplinary problem.

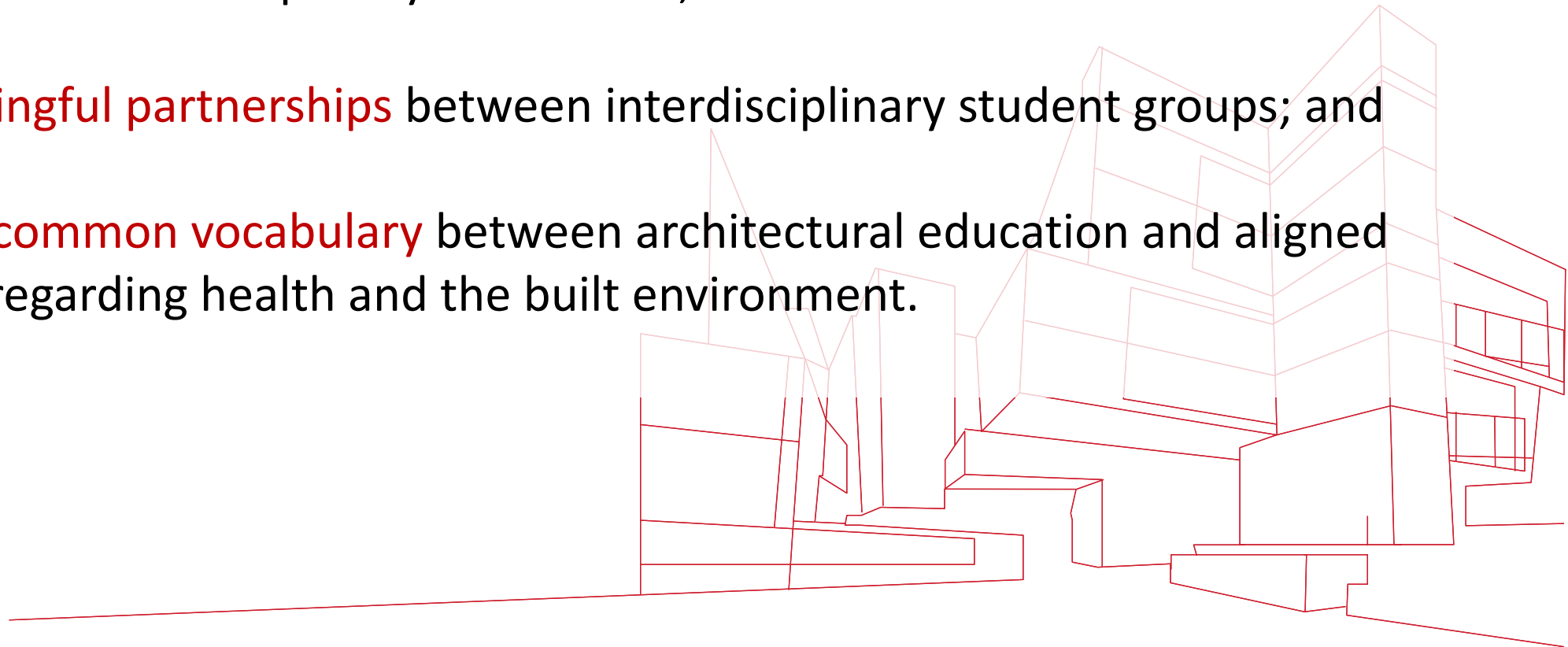
How can we better prepare our students to tackle this?



Create a course.

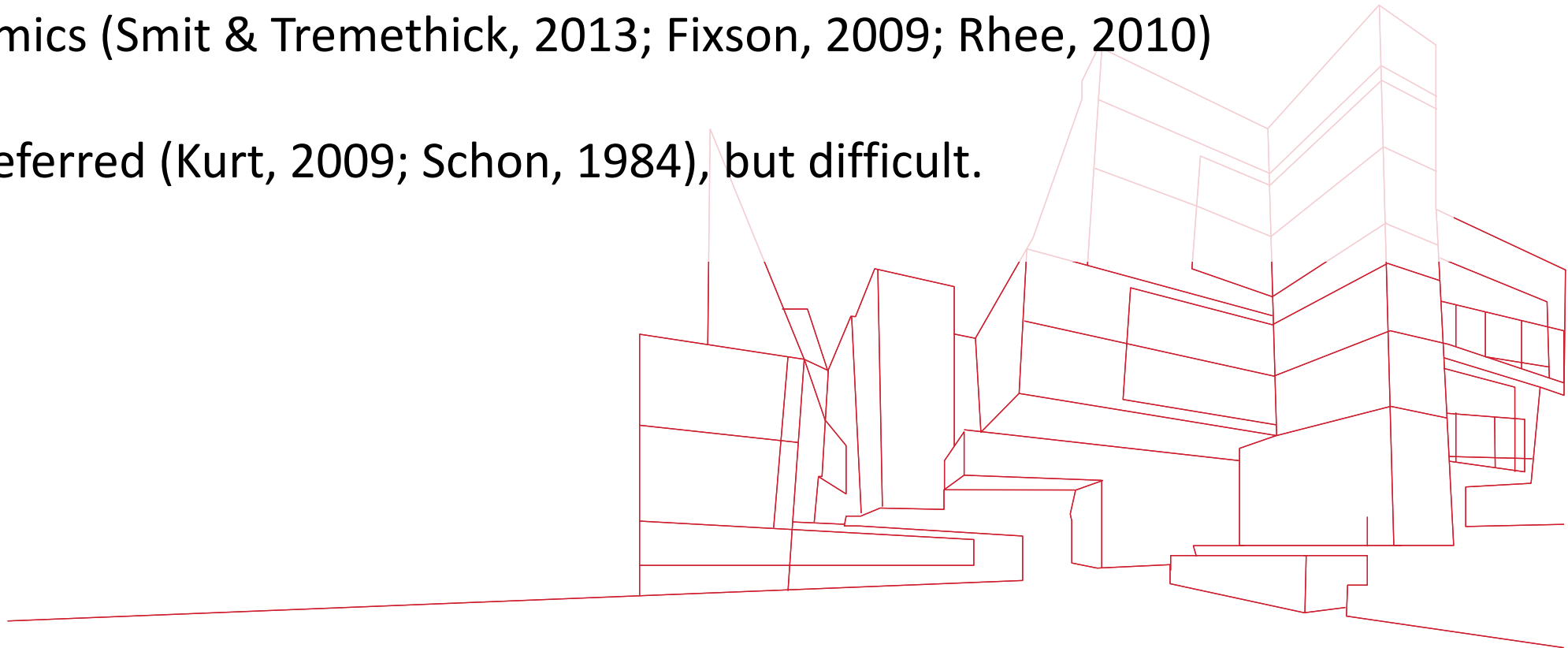
Course goals:

- (1) establish a **framework for common content** relating to health in the built environment across disciplinary boundaries;
- (2) build **meaningful partnerships** between interdisciplinary student groups; and
- (3) establish a **common vocabulary** between architectural education and aligned disciplines regarding health and the built environment.



The literature says:

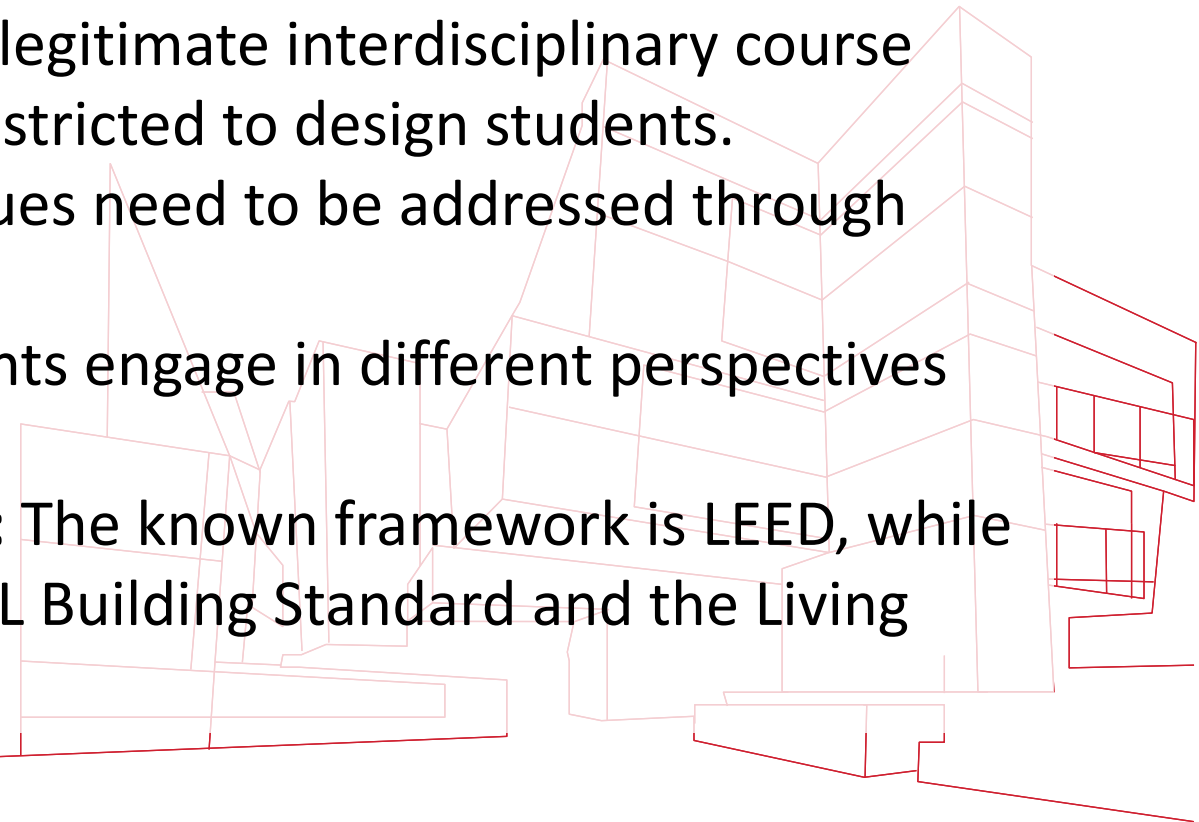
- There is a need to improve collaborations and dialogue with other disciplines (Keeler, 2009; Yudelson, 2009; Deutsch, 2011; Reed, 2009).
- Interdisciplinary teamwork engages students at higher levels, simulating real-world dynamics (Smit & Tremethick, 2013; Fixson, 2009; Rhee, 2010)
- Studio is preferred (Kurt, 2009; Schon, 1984), but difficult.



Research Method: Logical Argumentation to Establish Structure

Organize wide and varying realities into a comprehensible framework
(Groat & Wang, 2013)

- **First principles:**
 1. **Paradigmatic Innovation:** Establish a legitimate interdisciplinary course structure - not studio or lecture, or restricted to design students.
 2. **A Priori Argumentation:** Complex issues need to be addressed through interdisciplinary teams.
 3. **Interdisciplinarity:** Ensure that students engage in different perspectives around complex issues.
 4. **Primary and Secondary Frameworks:** The known framework is LEED, while the newer frameworks were the WELL Building Standard and the Living Building Challenge.



Testing the Framework

The resulting theory established the framework for an interdisciplinary course that could address the complexity of health and sustainability issues.

Module 1

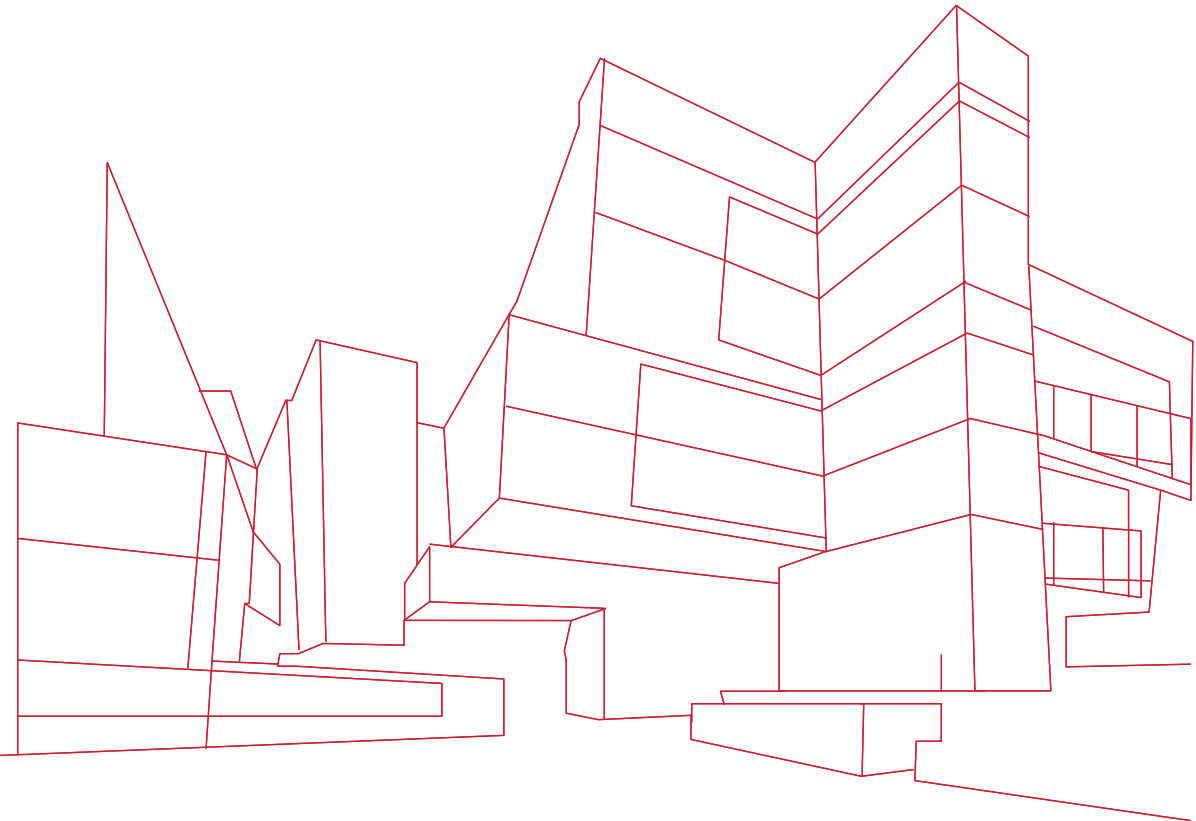
Foundational
Content

Module 2

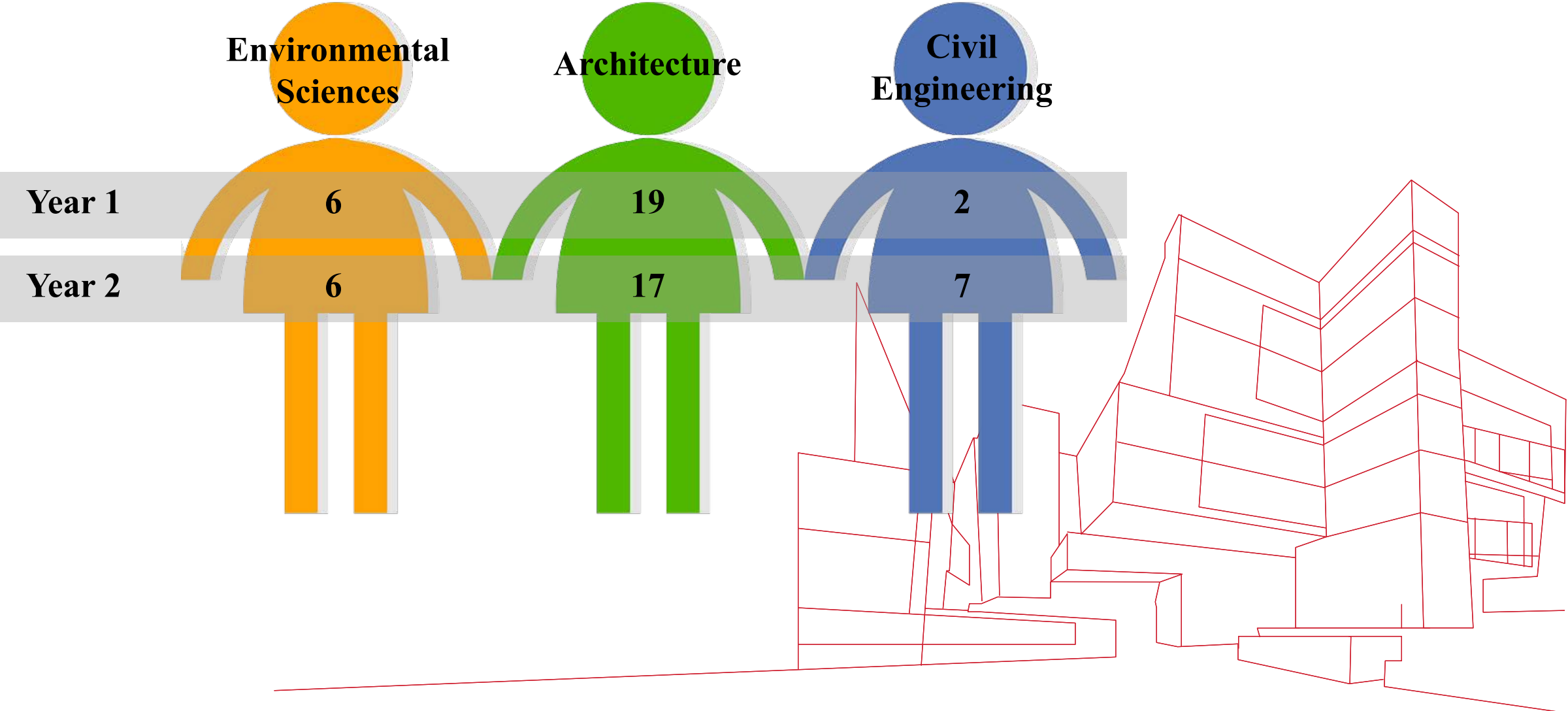
Deep Dive into
Issues

Module 3

Application of
Knowledge



Interdisciplinary Cooperation



Effectiveness and Assessment

Pre-test and post-test: Likert scale, asking about different knowledge regarding health and the environment, covering perceived understanding of strategies, thresholds and resources.

Directions: *Please rate your perceived current level of knowledge in each of the following on a scale from 1 to 10.*

Statements included things like ***How buildings impact human health*** and ***Rating systems available beyond LEED to measure the impacts of the built environment.***



Please rank your perceived current level of knowledge in each of the following on a scale from 1 to 10:

Measures and thresholds of true sustainable design	Rating systems available beyond LEED	How to minimize a design project's negative impact on a community	Possibilities for a design project to have positive environmental / health impact	How to assess green building rating systems through the design process	How to integrate green building rating systems into practice	Finding green building design projects	Leveraging interdisciplinary partners to address project challenges and opportunities	How green building design can be an integral part of professional practice	Potential strategies for regenerative design	Where to find information relating to green building strategies and resources
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Spring 2016 Pre-Tests (27 completions)

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
4.10	3.45	5.07	5.55	4.00	4.17	5.03	4.62	5.97	3.97	5.86

Spring 2016 Post-Test (22 completions)

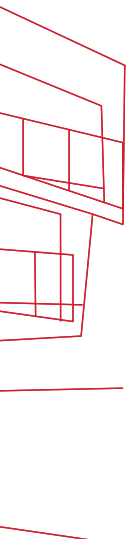
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
8.00	8.59	7.86	8.45	8.05	7.36	8.36	7.00	8.32	7.59	8.86
3.90	5.14	2.79	2.90	4.05	3.19	3.33	2.38	2.35	3.62	3.00

Spring 2017 Pre-Test (26 completions)

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
5.19	4.68	5.50	6.12	4.92	4.92	5.81	4.85	5.62	4.54	6.31

Spring 2017 Post-Test (27 completions)

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
8.11	8.59	8.11	8.56	8.11	7.70	8.37	7.81	8.37	7.81	8.89
2.92	3.91	2.61	2.44	3.19	2.78	2.56	2.96	2.75	3.28	2.58

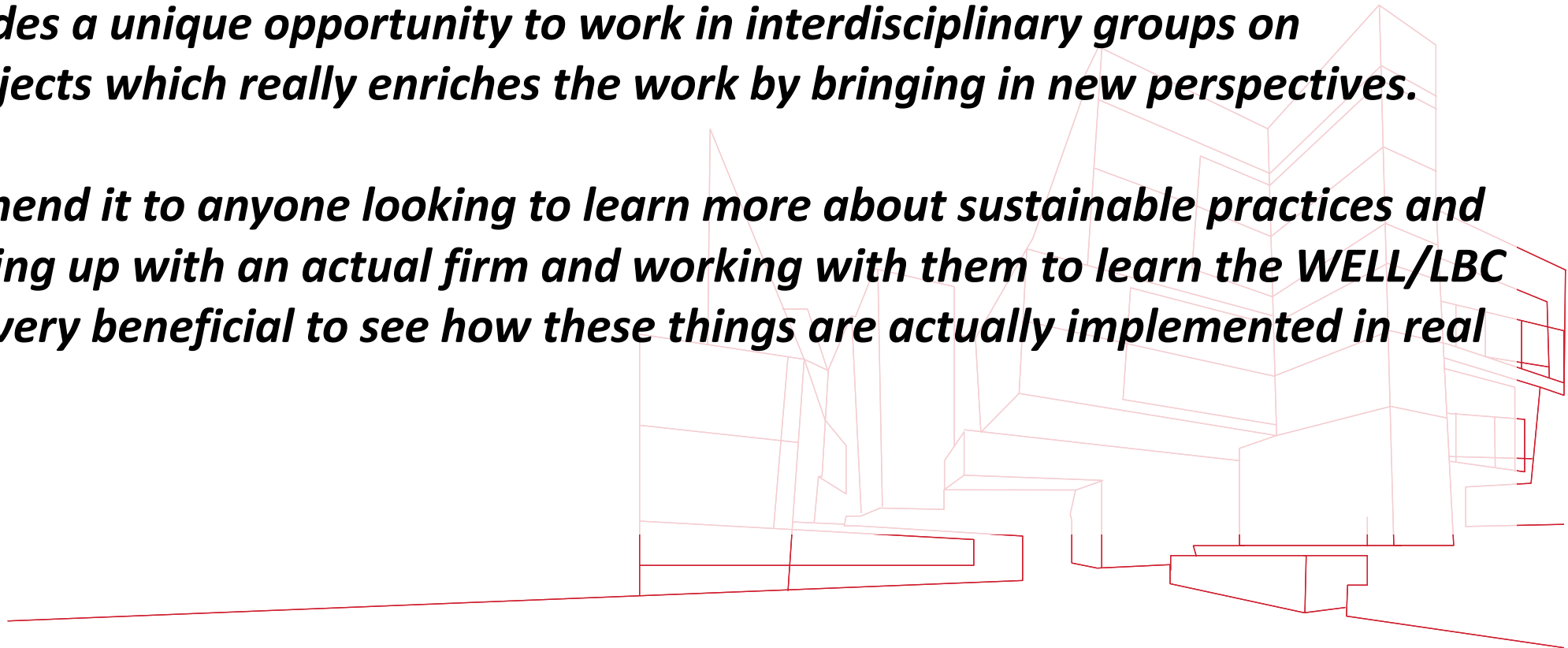


Student Evaluations

Having no architecture background prior to this class, I was worried about being overwhelmed but she did a great job of fusing introductory/basics with the important material that the course was primarily based on.

This class provides a unique opportunity to work in interdisciplinary groups on sustainable projects which really enriches the work by bringing in new perspectives.

I would recommend it to anyone looking to learn more about sustainable practices and standards. Pairing up with an actual firm and working with them to learn the WELL/LBC standards was very beneficial to see how these things are actually implemented in real life.



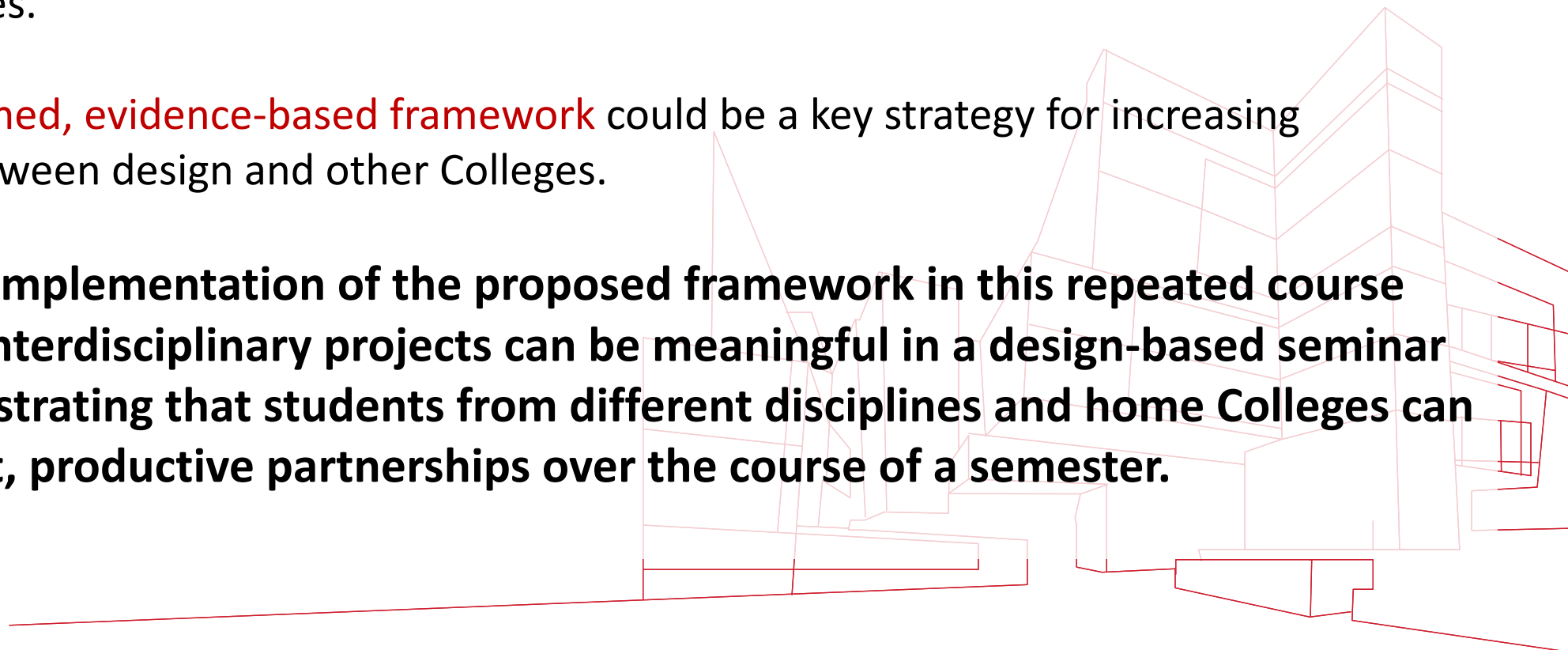
Conclusion: **It worked.**

Realistic model for meaningful, collaborative relationships between students studying the built environment and non-design students using established frameworks

Established **greater levels of comfort in collaboration** between previously considered distant student disciplines.

Using an **established, evidence-based framework** could be a key strategy for increasing collaboration between design and other Colleges.

The successful implementation of the proposed framework in this repeated course indicates that interdisciplinary projects can be meaningful in a design-based seminar setting, demonstrating that students from different disciplines and home Colleges can form significant, productive partnerships over the course of a semester.



Thank you.

Traci Rose Rider, Ph.D.

North Carolina State University
traci_rider@ncsu.edu

