

# Transformative education for sustainability: Assessing transformation in the work of art, design, and architecture students.

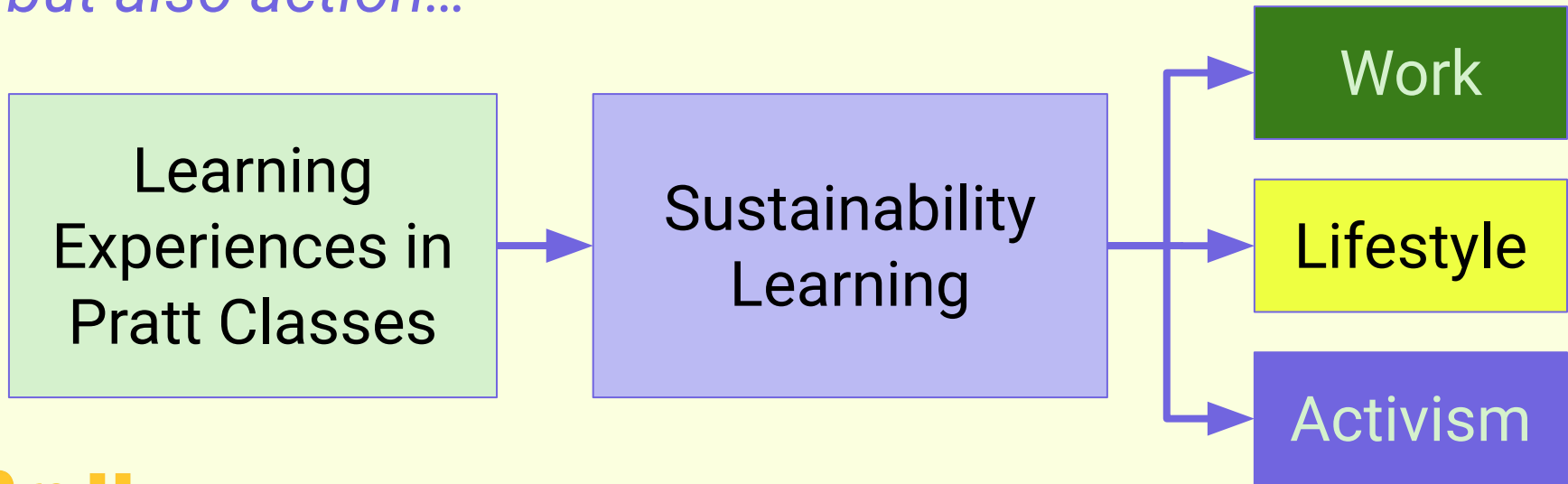
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# Transformative Education for Sustainability (TEfS)

*Learning experiences that students translate not just into understanding but also action...*

“Transformation” as seen through Sustainability content in student’s...



# Pratt Institute

- ★ Founded in 1887, Pratt now offers graduate and undergraduate degrees in the **arts, design, and architecture**
- ★ There are no longer majors in the natural sciences at Pratt, although many current majors are considered STEM and/or incorporate significant STEM content
- ★ Student interaction with **ecology** and **environmental science** is predominantly through their **general education courses**
- ★ Sustainability is a major focus of the Institute



# Components of a TEfS rubric

## *Kinds of transformation*

Work

Lifestyle

Activism

## *Knowledge domains*

Declarative

Procedural

Effectiveness

Social

## *Elements of transformative learning*

1. Disorienting dilemma
2. Values → emotional reaction
3. Critical assessment
4. Explore new roles
5. Plan action
6. Acquire skills
7. Take action

## *Domains of sustainability*

Ecology

Resources

Social

Culture

The Future

Equity

Technology

Economy

Education

Stakeholders

## *Pre-Pratt Sustainability Experience*

Education

Lifestyle

Work

Activism

# Looking for transformative action

	4	3	2	1	0	NA
Rubric criteria	Proficiency	Milestone 2	Milestone 1	Benchmark	Baseline	Not Applicable
<i>Kinds of transformation</i>						
Student's <b>academic and professional work</b> demonstrates transformative sustainability learning	Student's <b>academic and professional work</b> contains multiple examples of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>academic and professional work</b> contains an example of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>academic and professional work</b> contains multiple examples of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	Student's <b>academic and professional work</b> contains an example of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	There is no evidence of transformative sustainability learning in the student's <b>academic and professional work</b>	There is <b>no student work</b> to evaluate
Student's <b>personal habits and behaviors</b> demonstrate transformative sustainability learning	Student's <b>personal habits and behaviors</b> contain multiple examples of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>personal habits and behaviors</b> contain an example of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>personal habits and behaviors</b> contain multiple examples of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	Student's <b>personal habits and behaviors</b> contain an example of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	There is no evidence of transformative sustainability learning in the student's <b>personal habits and behaviors</b>	There is <b>no student narrative</b> to evaluate personal habits and behaviors
Student's <b>level of social engagement / activism</b> demonstrates transformative sustainability learning	Student's <b>level of social engagement / activism</b> includes multiple examples of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>level of social engagement / activism</b> includes an example of transformative sustainability learning and the student includes reflection on how what they learned transformed this work	Student's <b>level of social engagement / activism</b> includes multiple examples of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	Student's <b>level of social engagement / activism</b> includes an example of transformative sustainability learning but the student does not reflect on how what they learned transformed this work	There is no evidence of transformative sustainability learning in the student's <b>level of social engagement / activism</b>	There is <b>no student narrative</b> to evaluate levels of social engagement / activism

# Looking for transformative action in student work

## Work

“Student's **academic and professional work** demonstrates transformative sustainability learning”

**[4] = Proficiency** : Student's academic and professional work contains **multiple examples** of transformative sustainability learning and the student **includes reflection** on how what they learned transformed this work

**[3] = Milestone 2** : Student's academic and professional work contains **an example** of transformative sustainability learning and the student **includes reflection** on how what they learned transformed this work

**[2] = Milestone 1** : Student's academic and professional work contains **multiple examples** of transformative sustainability learning but the student **does not reflect** on how what they learned transformed this work

**[1] = Benchmark** : Student's academic and professional work contains **an example** of transformative sustainability learning but the student **does not reflect** on how what they learned transformed this work

**[0] = Baseline** : There is **no evidence** of transformative sustainability learning in the student's academic and professional work

**[NA] = Not Applicable** : There is **no student work** to evaluate

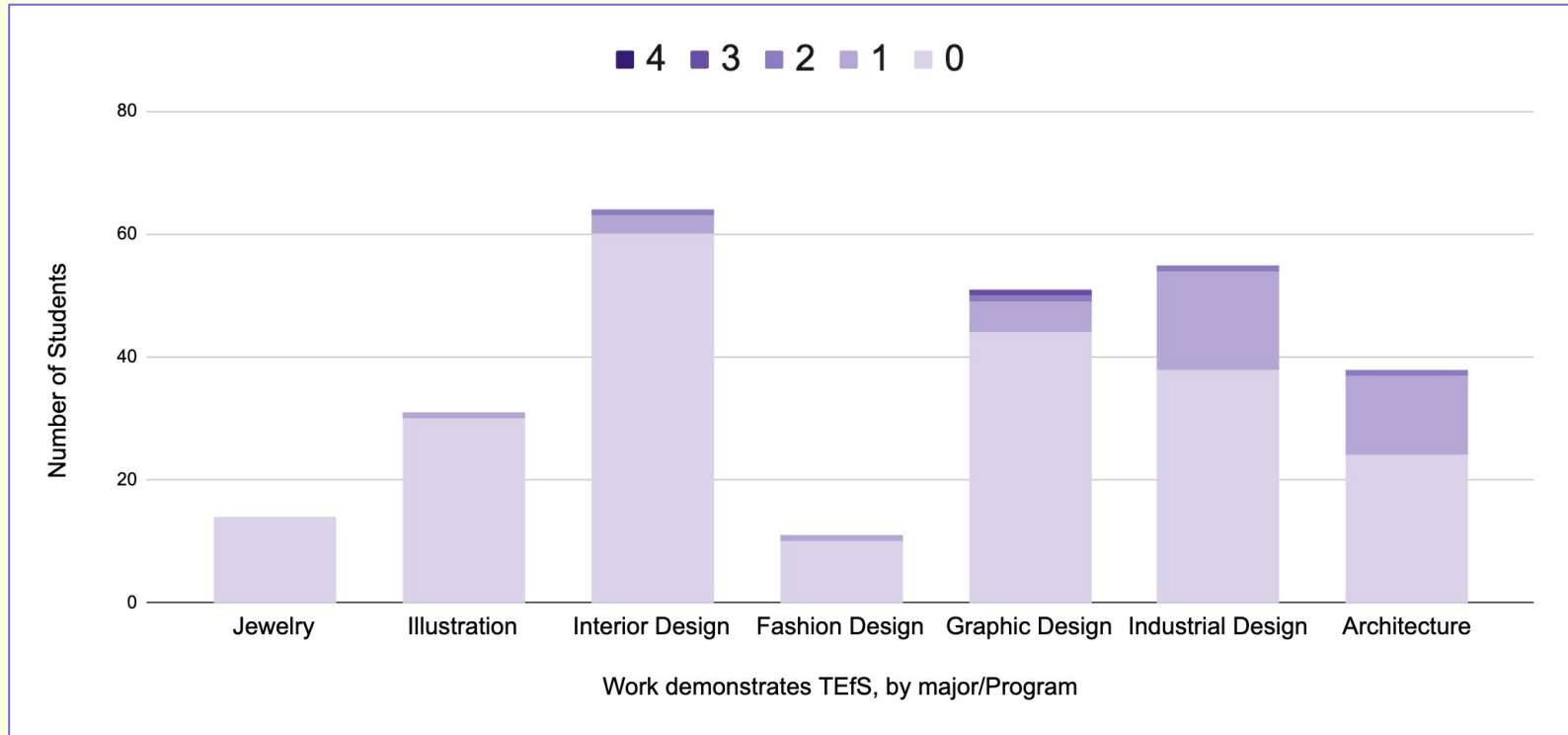
# Pilot Data set #1: Pratt Shows Design

- The Pratt Show is a large showcase of graduating student work, mostly aimed at potential employers
- Documentation of process and student intents varies radically, as there is no standard for how student work is displayed
- 264 undergraduate student works were assessed at the show using our TEfS rubric, focusing only on major programs included in the show



# TEfS in the Pratt Shows Design work

Work



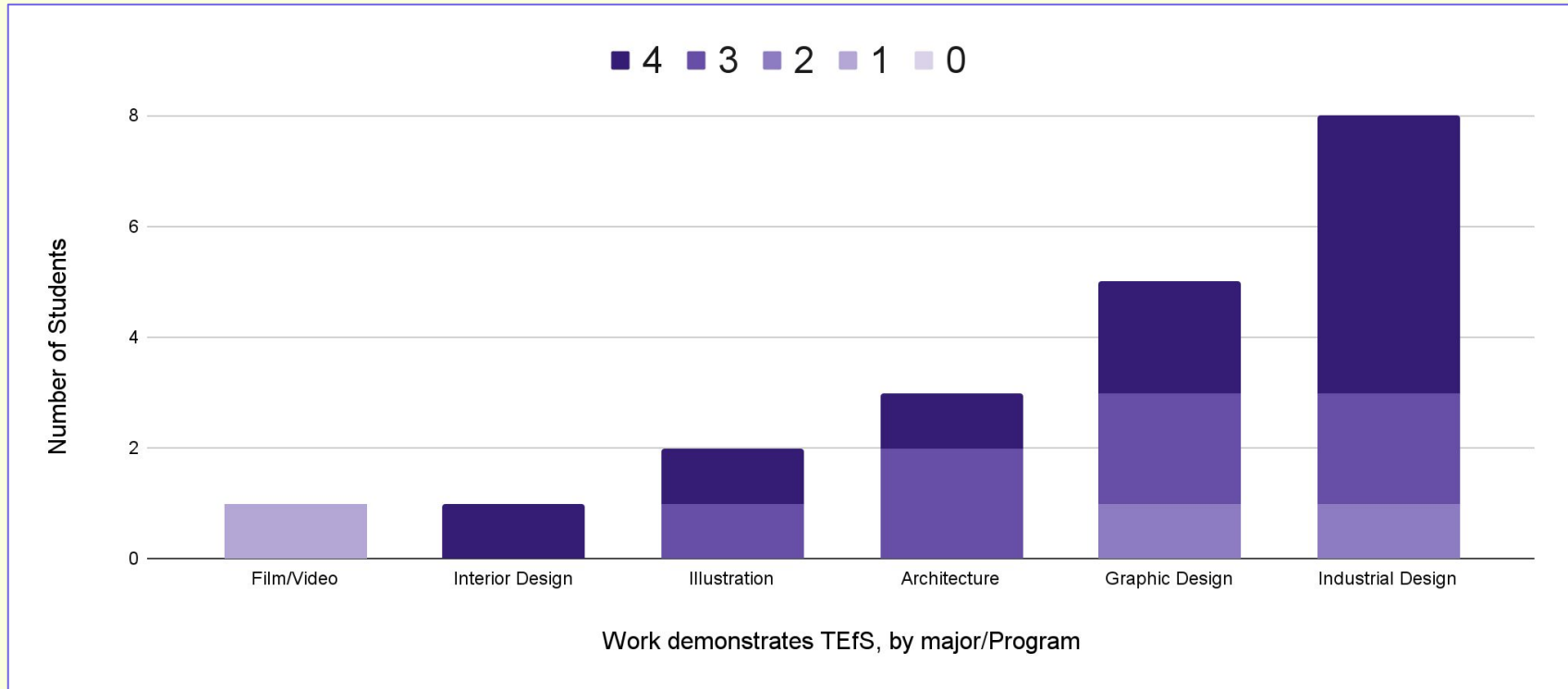


# Pilot Data set #2: Student interviews

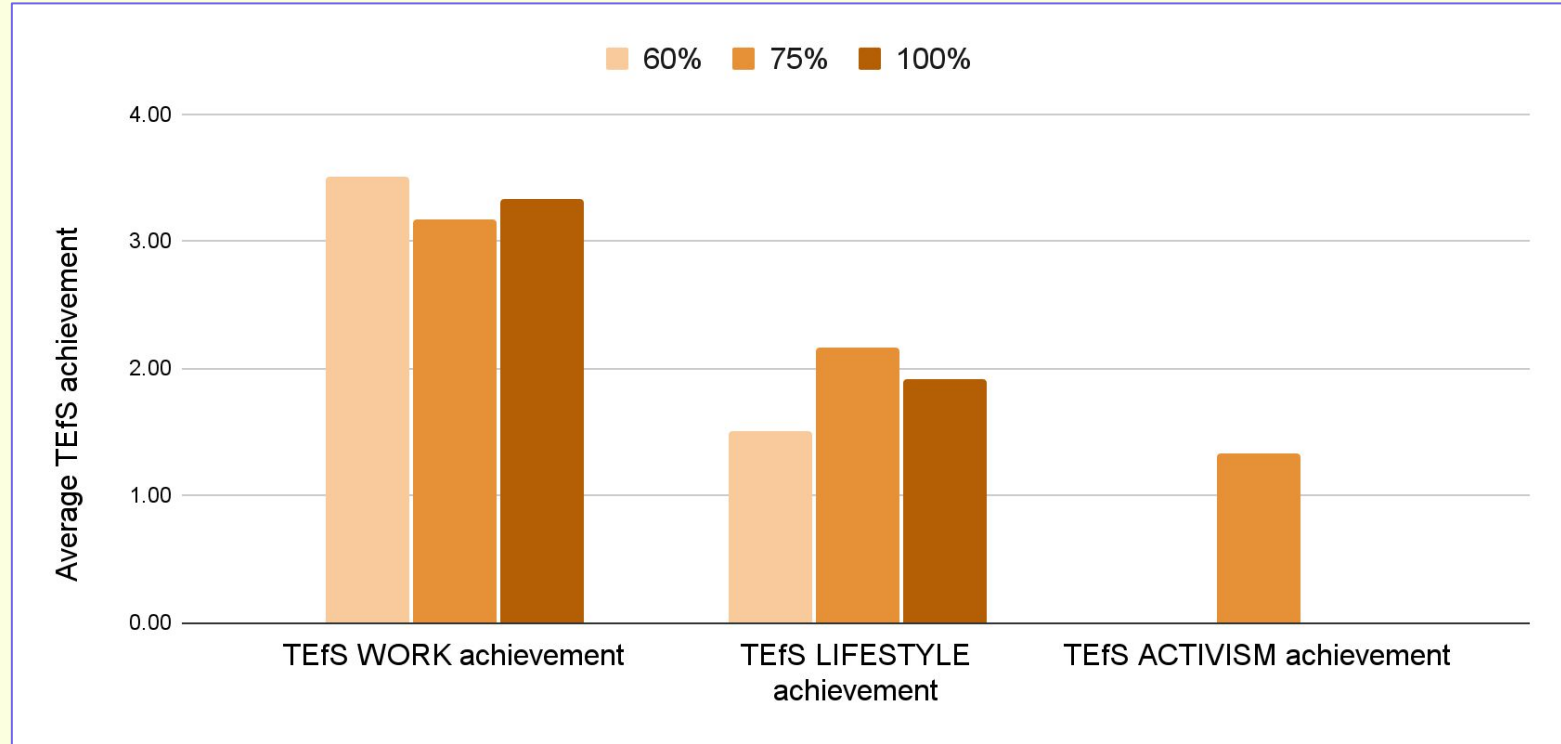
- 20 students were recruited to share samples of their work and participate in a one hour interview
- The interview asked students to explain their work and how educational experiences (Pratt and non-Pratt) influenced their inclusion of sustainability work
- Students were also asked about their sustainable lifestyle choices and their relation to their educational experiences
- A valuable sample, but definitely not representative!



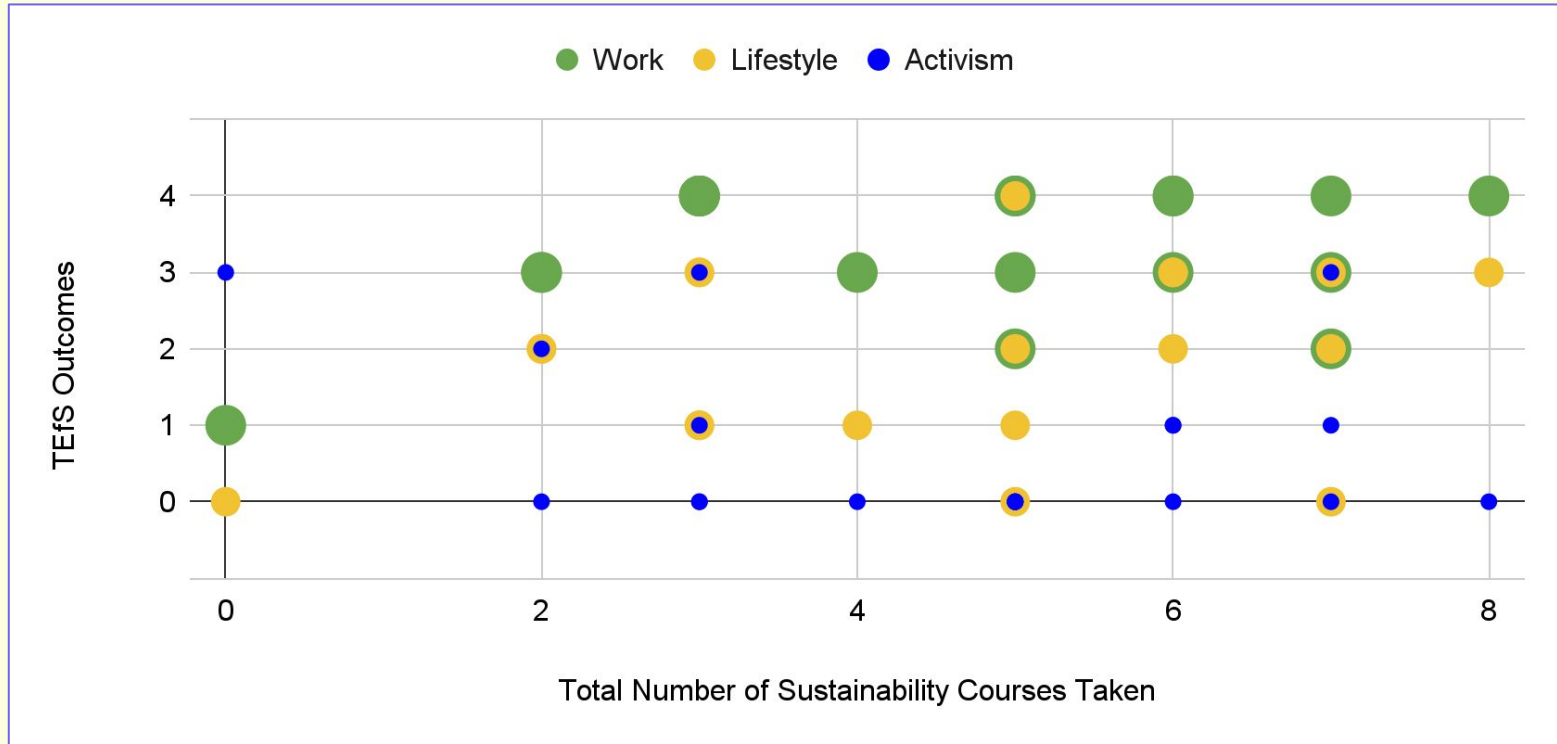
# TEfS in the Student Interviews



# The role of overall coursework in TEfS achievement



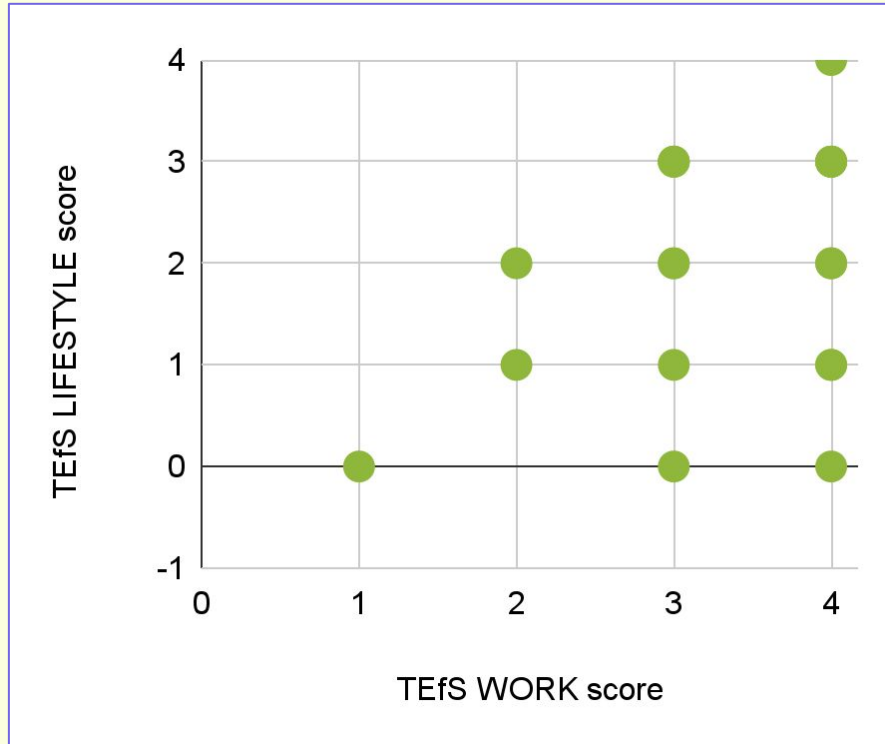
# The role of sustainability coursework in TEfS achievement



# The role of the sustainability minor in TEfS achievement



# Is there a tradeoff between different TEfS outcomes?



# Tentative conclusions

- Looking at interviews and student work has the potential to identify **transformative education for sustainability**, but...
- Current rubric needs to be revised to disaggregate achievement of **sustainability outcomes in student work** from the **influence of Pratt sustainability coursework**.
- Sample of students needs to be broadened to include **more diversity of past experience** in the sample of students.



# Thank you!

Questions, comments,  
or suggestions?