



PERCEPTIONS AND EXPERIENCES OF INTERDISCIPLINARY FACULTY AND STUDENTS ABOUT INCORPORATING SUSTAINABILITY IN THE CLASSROOM.

Dr. Devon Cadwell

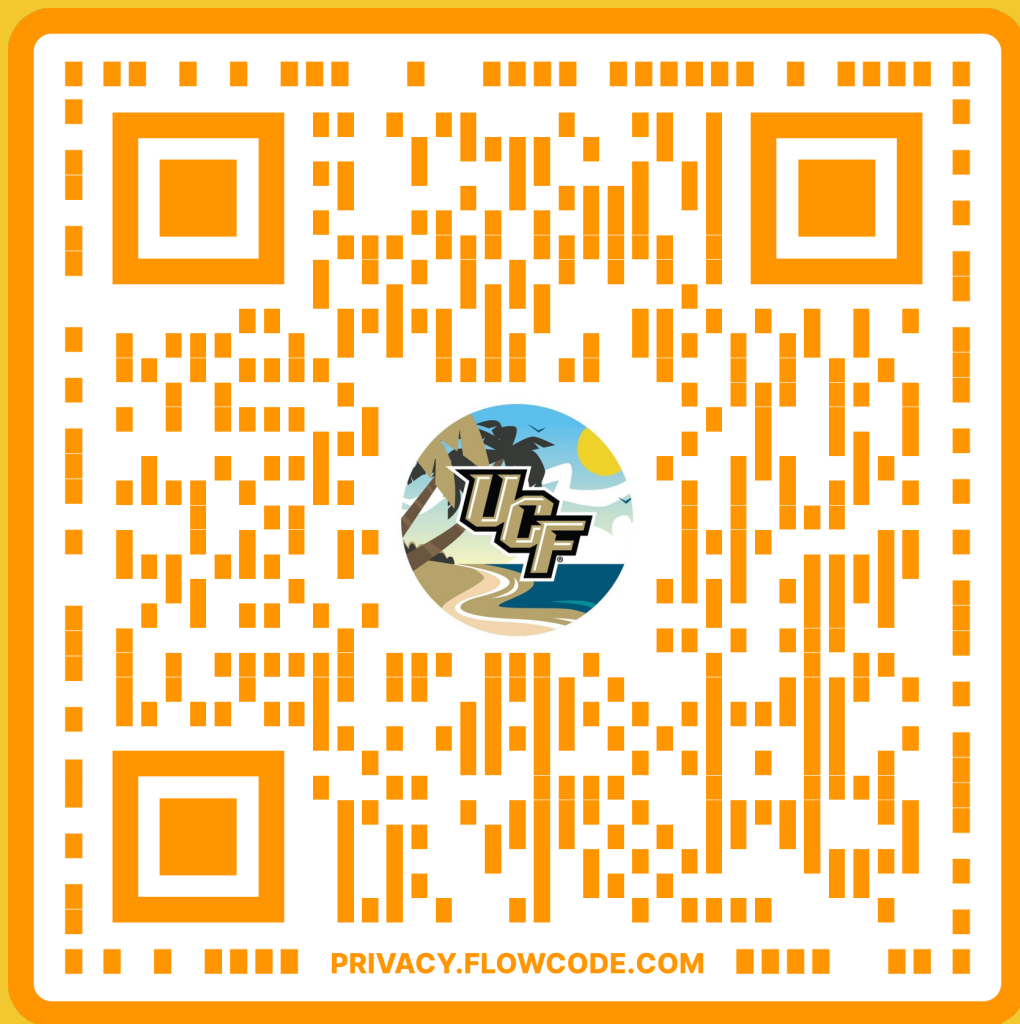
Dr. Stacey DiLiberto

Dr. Martha Hubertz

Iryna Malendevych

Dr. Richard Plate

Dr. Carlos Valdez



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In one or two words, share what sustainability means to you.

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WHAT DOES SUSTAINABILITY MEAN TO YOU?

This represents over 900 students in Fall 2023 – mostly 18 years of age FTIC.



FRAMING SUSTAINABILITY

17 United Nations sustainable
development goals (SDGs)



SDGs



**HOW HIGHER
EDUCATION IS
INCORPORATING
SUSTAINABILITY**



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Abstract

- Incorporating the sustainability concept in higher education has recently received attention in academic literature.
- This study uses a mixed-method approach. The qualitative section is based on the perceptions and experiences of instructors from different disciplines about how they incorporated sustainability into their courses.
- The quantitative section is based on an online survey with the participation of 935 undergraduate students Fall 2023 about their opinions about sustainability in higher education. The findings reveal the relevance of integrating Sustainability in higher education.



Introduction

- According to the United Nations Brundtland Commission (1987), Sustainability can be defined as “meeting the needs of the present without compromising the ability of future generations to meet their own needs.”
- Today, higher education institutions have the potential to be laboratories for Sustainability to impact actual and future generations, but this opportunity has not yet been fully realized (Kohl et al., 2022).



Making Waves
THE NATIONAL PUBLICATION OF
THE SURFRIDER FOUNDATION
VOLUME 27 / NO. 3 / 2008

Sustainability

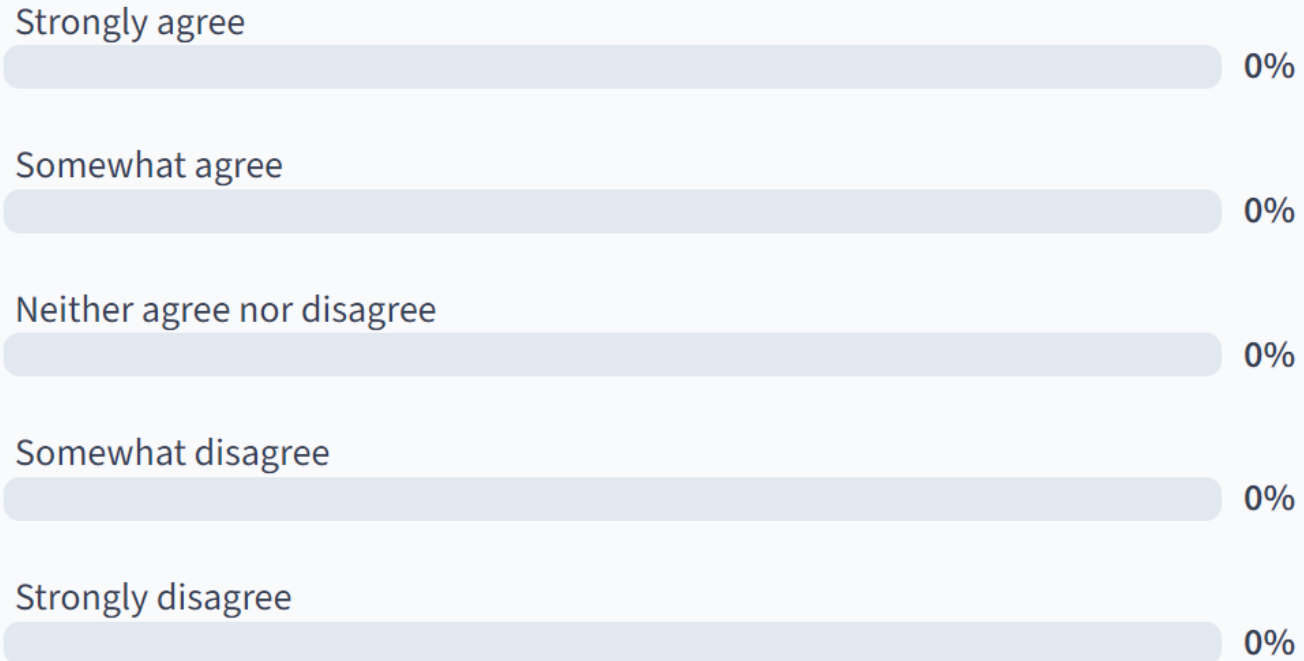
The definition of sustainability emphasizes the importance of meeting the needs of all people today while also ensuring that future generations will have the resources they need to meet their own needs.

It is a long-term approach to development that considers the **environment**, **society**, and the **economy**—one that lends itself to all disciplines of higher education.

This image from a visual rhetoric assignment in an upper level Interdisciplinary Communication course demonstrates sustainability incorporated into an existing curriculum.

Source: Surfriders.org

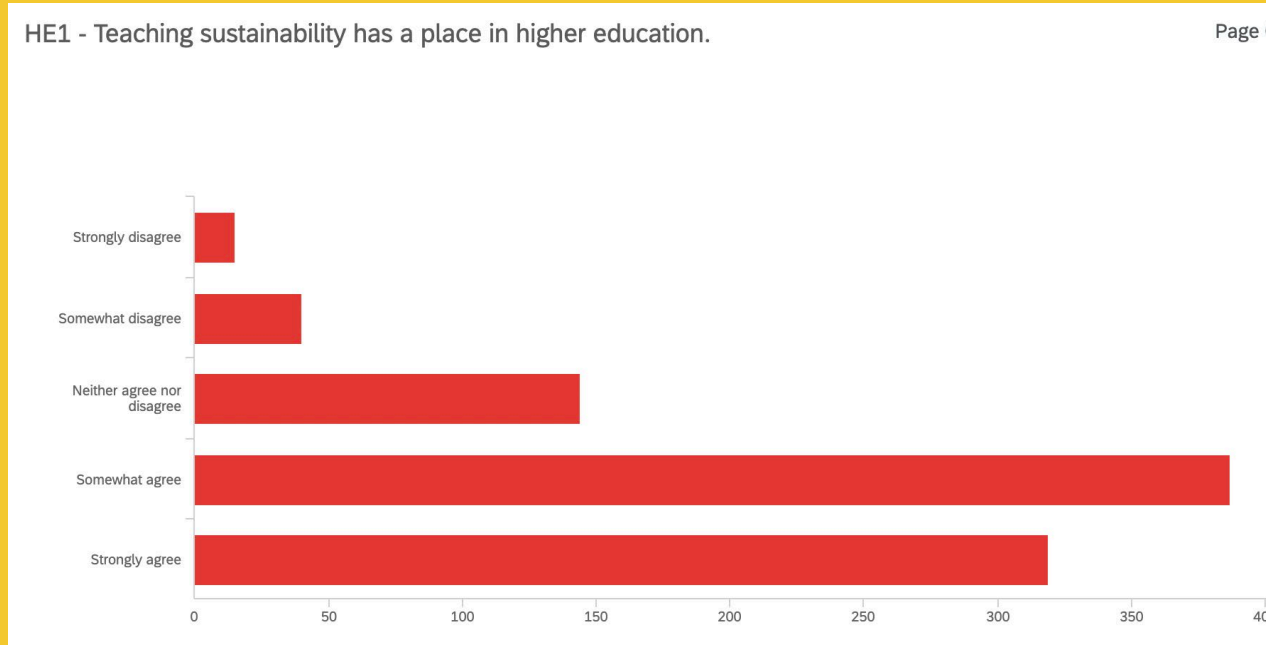
Teaching sustainability has a place in higher education?

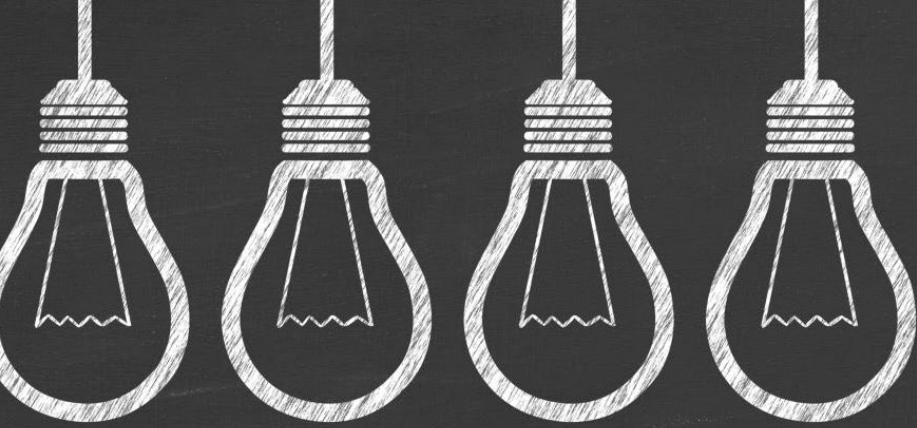


When poll is active respond at PollEv.com/ucf



STUDENT RESPONSES ABOUT TEACHING SUSTAINABILITY IN HIGHER ED





The Role of Higher Education

- Higher education involvement in the United Nations sustainable development goals is mainly limited to training, providing evidence about the need for sustainability efforts, and playing a policy information role (Kohl et al., 2022).
- The frameworks available today in the literature to incorporate sustainability in higher education do not focus on an interdisciplinary approach (Michael, 2020).



How Higher Education is Incorporating Sustainability

- The academic literature about sustainability covers complicated problems that require clever solutions and widespread problem-solving methods, challenging educational institutions with a new way of thinking about what to teach and how to teach it (Brundiers et al., 2010).
- The sustainability conversation concerns individual and societal values (Moore, 2005) and is relevant to higher education and the ways in which students learn and integrate sustainability across disciplines.

- Much of what is observed in higher education is grounded in the approach towards incorporating sustainability an institution has adopted---top-down or bottom-up. The bottom-up approach is more integrative in nature and infuses sustainability concepts, theories, and practices into established disciplinary coursework and degree programs, (as demonstrated by the image of grocery bags floating in the ocean as part of a visual rhetoric assignment).
- According to Tziganuk and Gliedt (2017), the literature on the bottom-up approach indicates professors initiate it as a type of grassroots movement and is most often seen in business, science, and engineering curricula, with a focus on innovation rather than behavioral change (p. 1194).



Integrating sustainability into your curriculum is a powerful way to empower students with the knowledge and skills needed for a more sustainable future. Here are some practical strategies you can consider:

- **Use the Campus as a Laboratory:**
 - Encourage hands-on learning by applying sustainability concepts within the university campus itself.
 - [Engage various disciplines—chemistry, psychology, communications, and art—to contribute to sustainability efforts¹.](#)
- **Incorporate Sustainability Themes Across Disciplines:**
 - Infuse sustainability topics into existing courses. For example:
 - Business courses can explore sustainability in business practices.
 - Criminology courses can discuss justice and environmentalism.
 - [Law courses can delve into environmental law and policy².](#)
- **Reorient Teaching to Focus on Sustainability:**
 - Shift teaching approaches to emphasize sustainability.
 - Consider courses like pluralist economics or leadership for sustainability.
 - [Encourage critical thinking about global challenges and solutions².](#)
- **Promote Active Participation and Real-World Projects:**
 - Create “ah-ha” moments that deepen personal connections to global sustainability issues.
 - [Engage students through sustainability themes and encourage data collection and real-world projects³.](#)
- **Collaborate and Coach:**
 - Faculty and staff must be committed to coaching and assisting students.
 - Define manageable projects that align with sustainability goals.
 - [Communicate clear expectations to maximize student learning and impact¹.](#)

Integrating sustainability into the curriculum isn't just about teaching — it's about shaping responsible global citizens who can drive positive change.





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**FACULTY PERCEPTIONS
AND EXPERIENCES
ABOUT
SUSTAINABILITY**



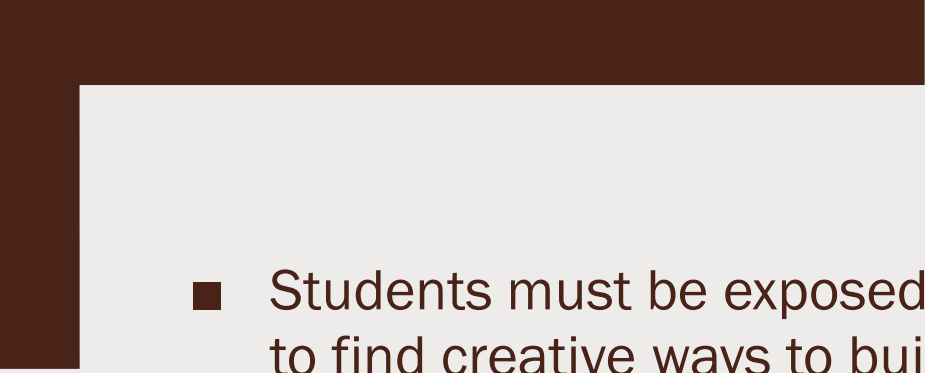
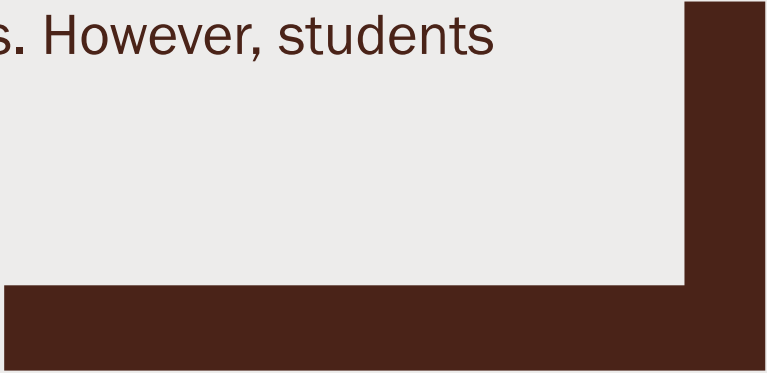
Faculty Perceptions and Experiences about Sustainability

- Strategies to integrate sustainability real-life learning include project-based learning, service learning, and internships (Brundiers et al., 2010).
- Companies have progressively been incorporating sustainability into their strategies and tactics, and the academia in business needs to move in this direction as well (Stubbs & Cocklin, 2007).
- Daub et al. (2019) suggest that incorporating Sustainability in academia through different projects frequently faces opposition.



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**STUDENTS
PERCEPTIONS AND
EXPERIENCES ABOUT
SUSTAINABILITY**

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- Students must be exposed to sustainability challenges, and academia needs to find creative ways to build students' abilities (Brundiers et al., 2010).
 - According to Ueda (2018), industrial design students in Japan are aware of the relevance of the sustainability topic, but there is a gap in their education about how to develop environmentally friendly products. However, students show interest in filling that gap.
- 

Students Perceptions and Experiences about Sustainability





METHODOLOGY



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QUALITATIVE DATA

This action research project employed a **cyclical** design, consisting of **planning, action, observation, reflection, and adaptation** phases.

This iterative approach allowed for continuous refinement of the intervention based on ongoing reflection and discussion. Each cycle provided opportunities for individual faculty members to test and refine strategies for integrating sustainability into their own existing curriculum.

The participants in this study were **faculty members** from various departments within the institution.

Selection was based on **voluntary participation** and demonstrated interest in incorporating sustainability into their teaching practices.

Incorporating Sustainability Into the Curriculum

Data Collection



Multiple methods were employed to gather data throughout the research cycles:



Focus group discussions: Initial meetings of faculty are classified as focus groups and were an opportunity for faculty to understand their existing knowledge, attitudes, and perceived challenges regarding sustainability integration.



Action planning meetings: Collaborative meetings were conducted with faculty sharing how they incorporated sustainability into their courses.



Faculty reflection: Throughout the action cycles, faculty participants documented their experiences, reflections, and insights regarding the integration process and student learning outcomes.



Student surveys: At the conclusion of the first two cycles, students in a selection of the courses were invited to anonymously complete surveys to assess their learning experiences and perceptions of the integrated sustainability aspects.

A magnifying glass is positioned over a bar chart. The chart features two columns of bars, each labeled 'Q2' and 'Q3'. Each column contains two bars, one blue and one green. The magnifying glass is centered over the 'Q2' and 'Q3' labels and the corresponding bars, making them the primary focus of the image. The background is a light, neutral color.

Data Analysis

Data analysis employed a **mixed-methods** approach, combining qualitative and quantitative methods.

Qualitative data from faculty meetings and reflections was analyzed thematically to identify key patterns and insights.

Quantitative survey data was analyzed descriptively to understand student perspectives on the integrated sustainability elements.

Limitations

Limitations of the study included:

- The specific context of the participating institution, which may limit generalizability to other settings.
- The voluntary nature of participation, potentially leading to self-selection bias.
- The limited scope of data collection, focusing primarily on faculty experiences and student perceptions, might not capture the broader impact on sustainability learning outcomes.



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**FACULTY
EXPERIENCES**

Course	SDG(s) of Focus	Learning Objectives	Sustainability Learning Objectives
Studies in Culture: 17th Century to the Present (Humanities)	Student choice	<ul style="list-style-type: none"> Analyze contemporary discourses related to the environment and climate action 	<ul style="list-style-type: none"> Define and assess the SDGs
Integrated Marketing and Sales (Business)	Student choice	<ul style="list-style-type: none"> Demonstrate creativity and innovation in addressing practical challenges Developing a sales plan 	<ul style="list-style-type: none"> Make students aware of UN SDGs
Interdisciplinary Communication (Interdisciplinary Studies)	Student choice	<ul style="list-style-type: none"> Use an image to communicate a point Combine text and images to increase impact 	<ul style="list-style-type: none"> Understand an SDG and how it relates to their experience
Psychology of Women/Cross-Cultural Psychology (Psychology)	8, 10, 11, 15, 16, 17	<ul style="list-style-type: none"> Connect service-learning activity to an SDG 	<ul style="list-style-type: none"> Learn what the SDGs are
Corrections and Penology (Criminal Justice)	Student choice	<ul style="list-style-type: none"> Problem-solving related to improving transitioning from prison to society 	<ul style="list-style-type: none"> Learn what the SDGs are in relation to criminal justice

Faculty Experience	Mandatory/Optional
Requirement	<ul style="list-style-type: none"> • 3 Mandatory • 2 Optional
Assessment Strategy	<ul style="list-style-type: none"> • 3 Completion/Participation • 3 Written Response • 3 Formal Writing Assignment • 1 Project
Learning objectives were met?	<ul style="list-style-type: none"> • 3 Strongly agree • 2 Somewhat agree
Student receptivity	<ul style="list-style-type: none"> • 4 Highly receptive • 1 Somewhat receptive
Plans to continue incorporating sustainability	<ul style="list-style-type: none"> • 5 Definitely yes

QUANTITATIVE DATA



STUDENT PERCEPTIONS OF SUSTAINABILITY



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■ The Problem

- How do we teach the complexities of sustainability in higher education.

■ The Solution

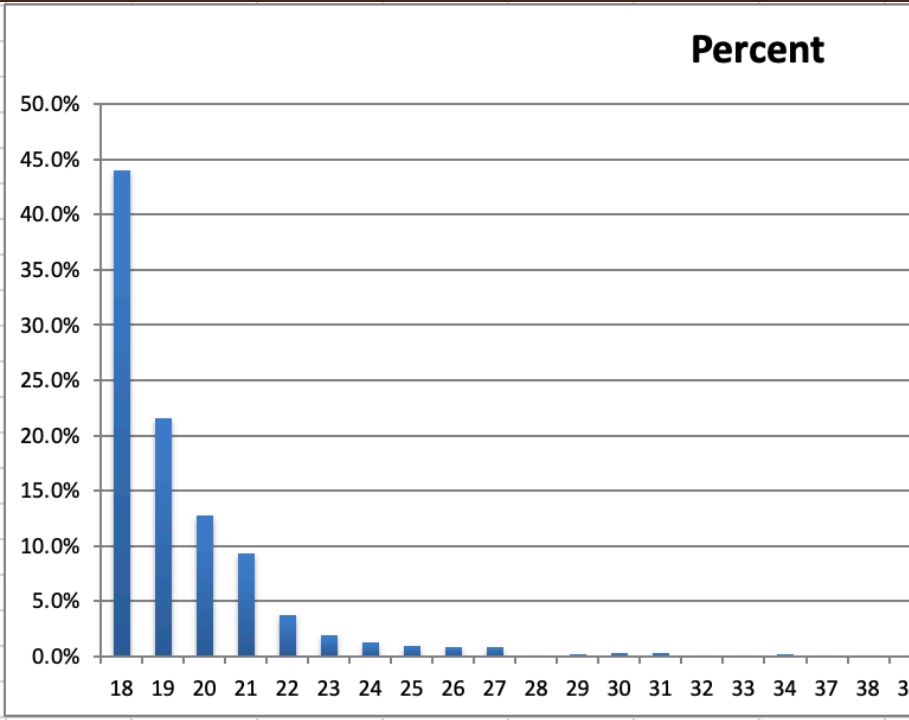
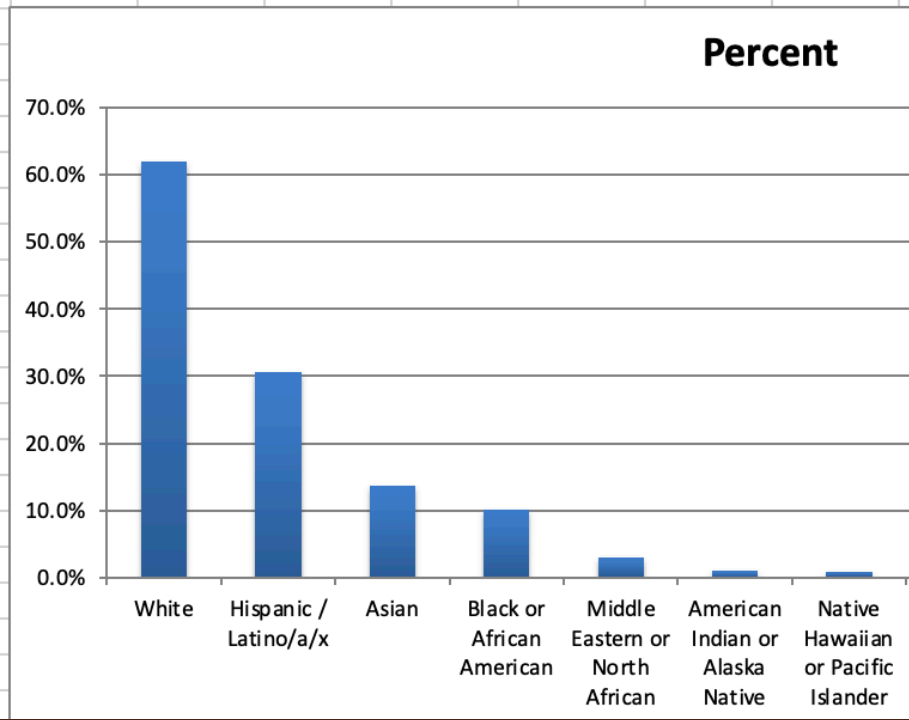
- Is the solution to infuse courses with active learning and connection opportunities?

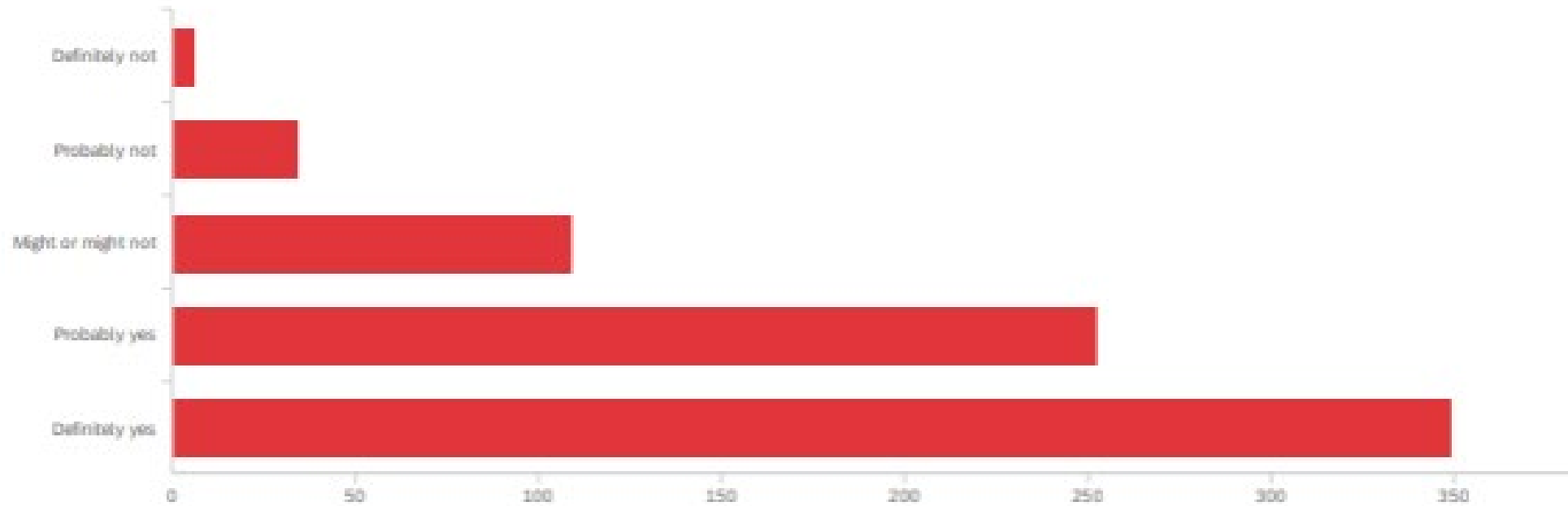
■ The Study

- 926 undergraduate students at a large public university provided perceptions on perceptions of sustainability and higher education, as well as information on teaching examples as it pertains to sustainability in Fall '23.

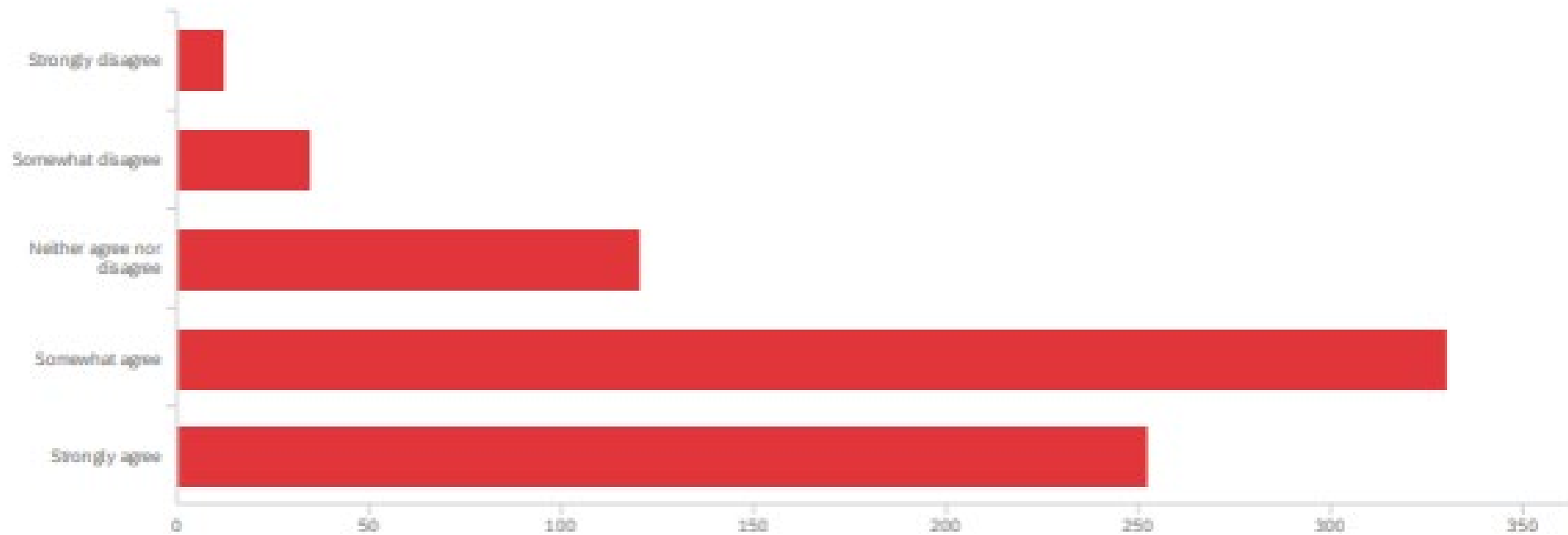
Participants

- Participants ranged in age from 18-52. 44% were 18 years of age.
- 60% female, 38% male, <2% non-binary or preferred not to say.
- 42% were first year students (under 30 credit hours).
- 15% were first generation students.
- 26% were transfer students.
- 7% were international students.
- 42% identified as minority group members.
- 62% identified as white.
- 23% English is not the primary language spoken in the home.



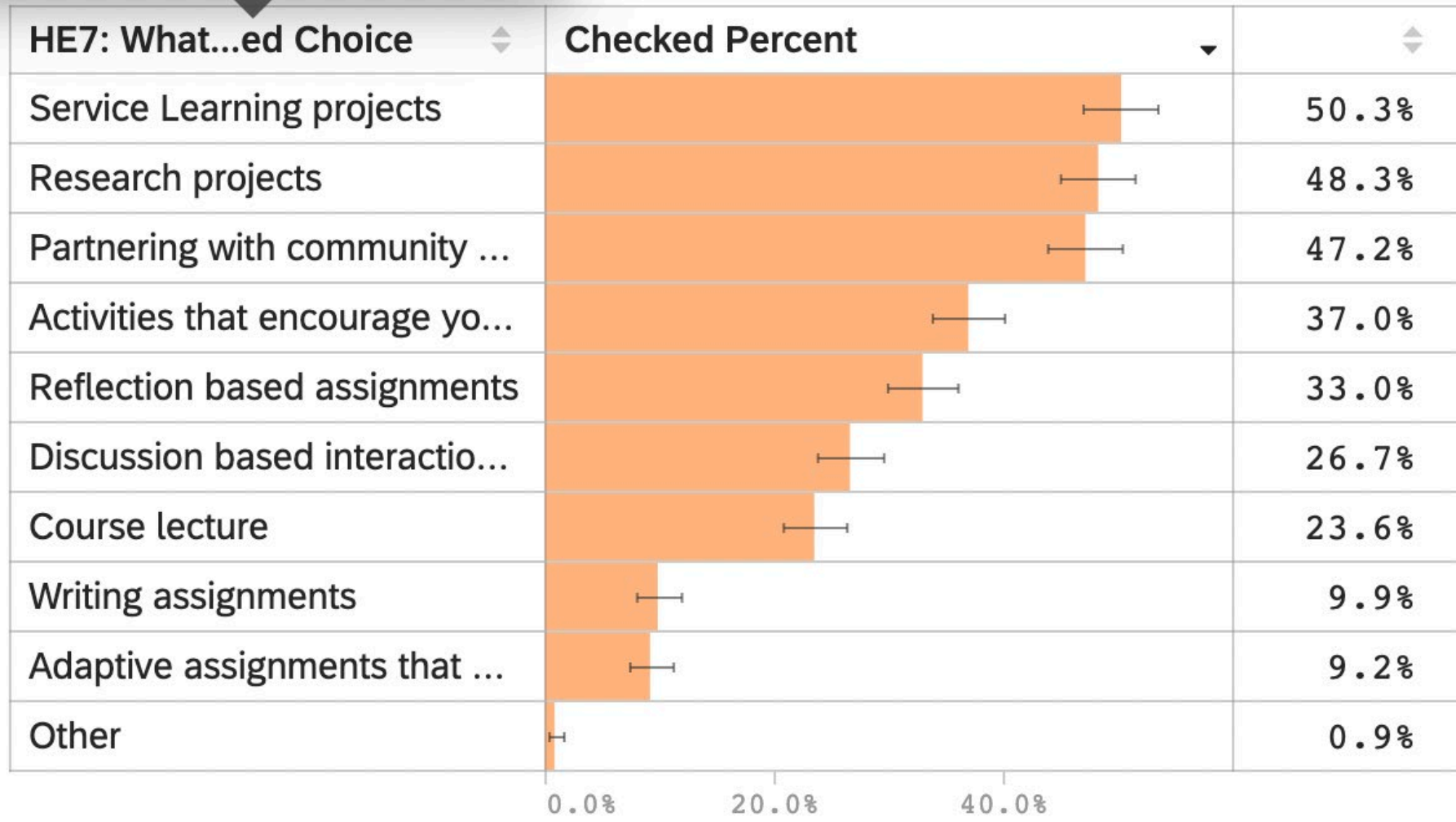


#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Do you think that sustainability is a complex issue?	1.00	5.00	4.21	0.91	0.82	750



#	Field	Minimum	Maximum	Mean	Std Deviation	Variance	Count
1	Teaching sustainability has a place in higher education.	1.00	5.00	4.04	0.91	0.82	748

Choice
 HE7: What kinds of course assignments do you think are most likely to increase your understanding of sustainability? (please check all that apply) - Selected Choice



In a few words, what is the most important way higher education contributes to sustainability?

- ChatGPT 4 Qualitative analysis:

- *Educating future generations*
- *Fostering innovation and research*
- *Promoting awareness and critical thinking*
- *Creating knowledgeable leaders and professionals*
- *Encouraging community and global engagement*



CONCLUSIONS



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Lessons Learned

- Spend time introducing the SDGs to the students and highlighting connections to course content
- Be sure there is a natural connection between the assignment and SDGs
- Start small
- Trying new things can be rewarding—be transparent with students and solicit feedback
- Use UCF resources on sustainability

Discussion

- Identify a course that could address one or more of the sustainable development goals
- How could you incorporate the sustainable development goals into your course?
- What existing course objectives could you address through sustainability-oriented content?

Use this code to access the United Nations website on sustainable development goals



A stylized graphic in the background, featuring a yellow and white hand-like or leaf-like shape with a blue eye-like shape in the center. The graphic is set against a black background with a white border.

QUESTIONS OR COMMENTS

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