



Data-Driven Pedagogy: Harnessing Early-Semester Student Feedback and AI for Educational Enhancement

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Monash University Malaysia



9200+ Students from
76 Countries

~600 Staff

7 Schools

28 Undergraduate degrees

500+ Units offered



End of semester SETU

Mid-semester School-
administered or ad hoc
educator administered
feedback surveys

Early Semester Student
Feedback Survey (ESSFS)
introduced in 2021

Survey runs from Week 4-5

STUDENT EVALUATIONS AT MONASH MALAYSIA

Likert Scale Questions

- | | |
|---|---|
| 1 | In this unit, the learning outcomes have been made clear to me. |
| 2 | The guidelines are very clear about what is required for each assessment in this unit. |
| 3 | There are pre-class activities for me to do in preparation for my classes. |
| 4 | My Moodle site makes it clear what I am expected to do on a weekly basis. |
| 5 | I have already had useful feedback on how I am doing in this unit (this is feedback on your progress and does not have to be related to assessment). |
| 6 | In this unit, there are opportunities to ask questions and discuss issues. |
| 7 | The classes in this unit actively engage me to help my learning. |
| 8 | The digital resources provided in this unit are useful for my learning (e.g. video/audio files, internet links, e-reference material, digital games, interactive unit resources, etc.) |

Open-Ended Questions

- | | |
|----|---|
| 10 | What is really working that helps your learning in this unit? |
| 11 | What can be improved to better help your learning in this unit? |

WHY ESSFS?



Formative evaluation

Providing educators with an opportunity to gauge efficacy



Support educators

As a tool to provide actionable insights and focus on key L&T practices



Student outcomes & experience

Have an impact on current students and address issues early on

STUDENT EVALUATIONS AT MONASH MALAYSIA

End of semester SETU

Mid-semester School-administered or ad hoc educator administered feedback surveys

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**ESSFS
INTRODUCED**

Response rate ~12%

YEAR 2

Response rate ~35%

YEAR 3

Response rate ~44%

YEAR 4

Response rate ~43%

2021

2022

2023

2024

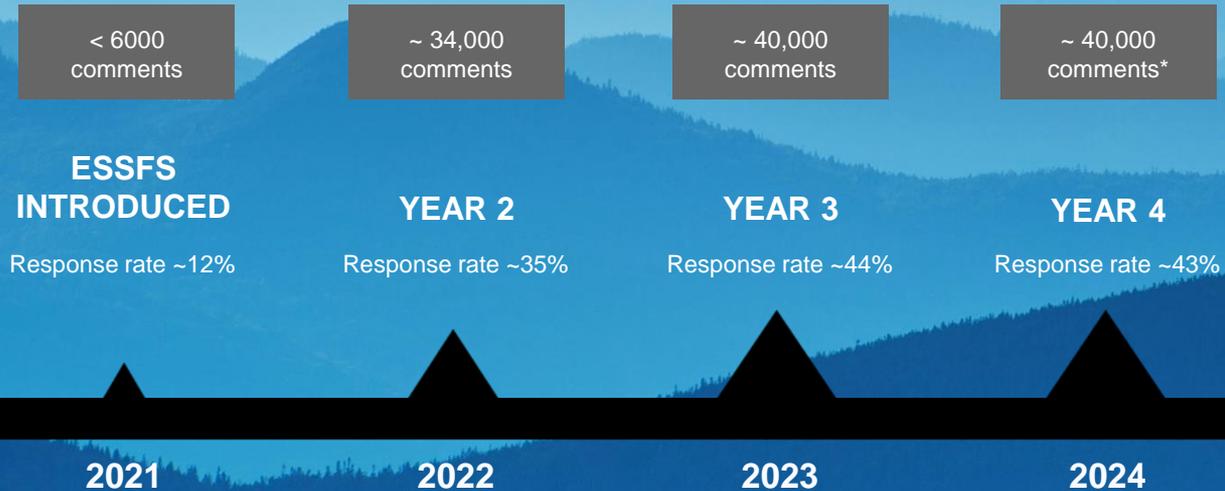
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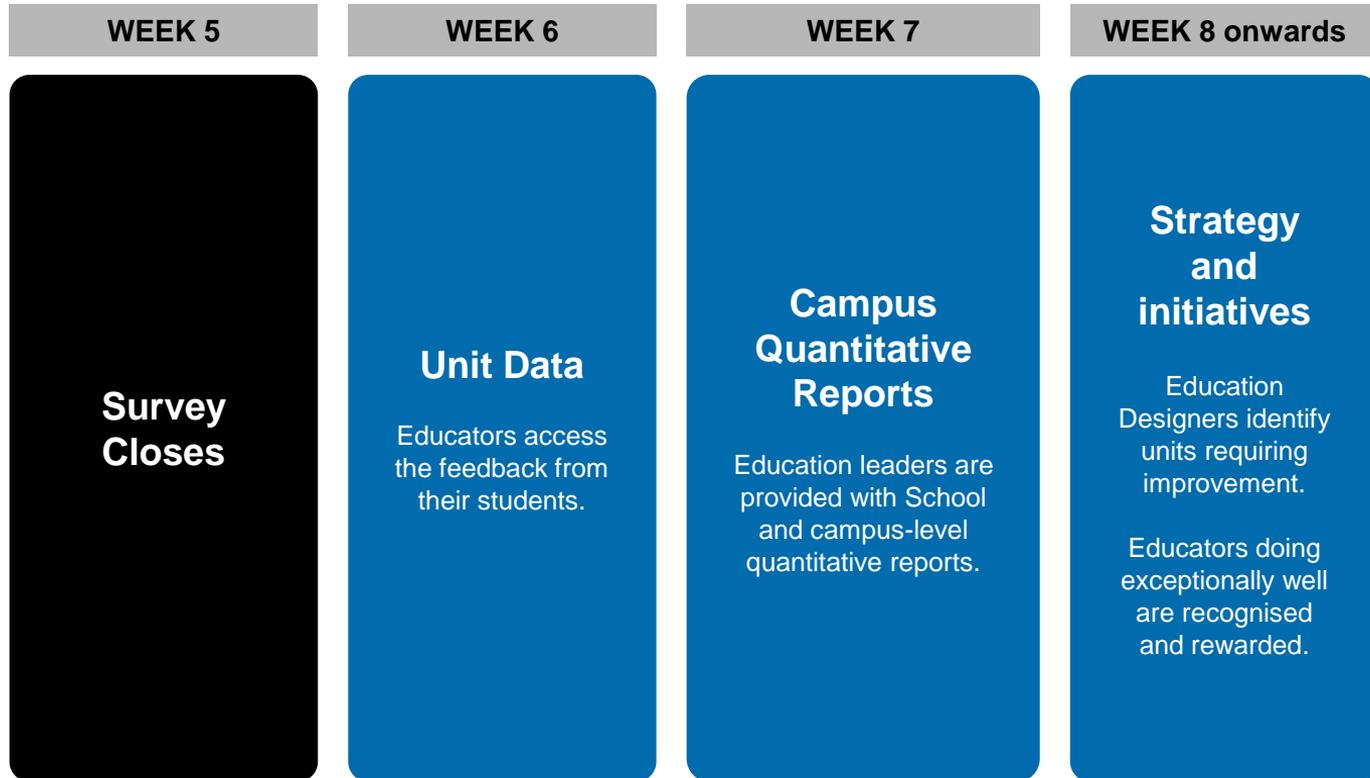
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STUDENT EVALUATIONS AT MONASH MALAYSIA

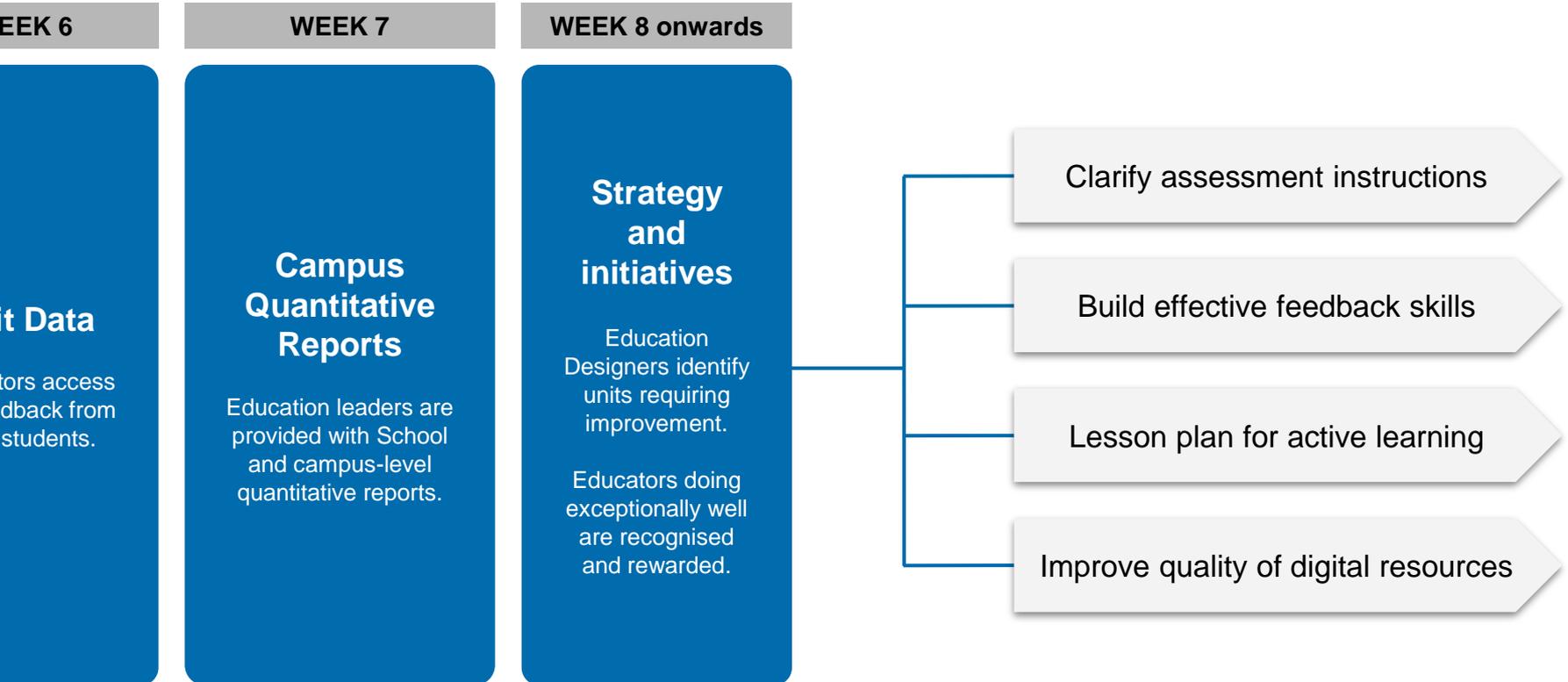


*projected

POST SURVEY (2022-2023)



POST SURVEY (2022-2023)



3

Challenges

POST SURVEY (2022-2023)

1. Large data set
2. Time to analyse qualitative data
3. Inability to identify concerning/alarming comments

QUALITATIVE REPORT

ESSFS Qualitative Analysis

Topic Level 1

Topic Level 2

Topic Level 3

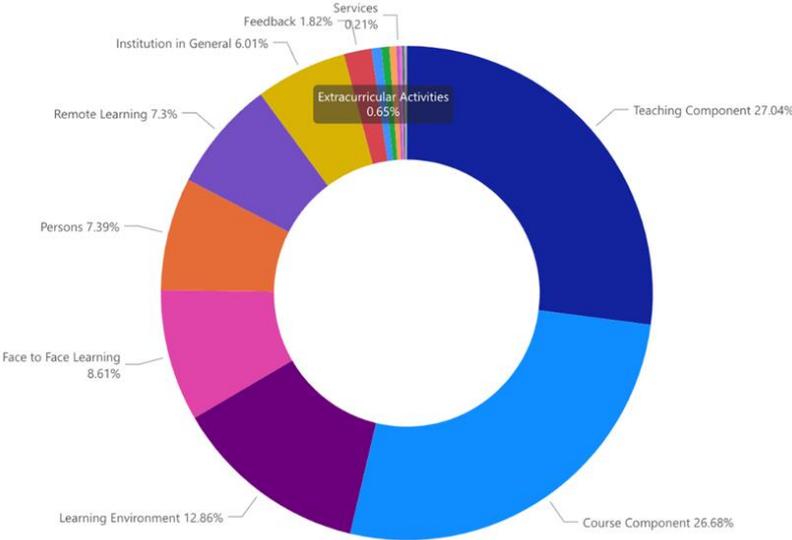
Topic Level 4

Filter and drill down

School	Year
All	All
Semester	
All	
Year Level	
All	
Sentiment	
All	
ESSFS Question	
Question 11	

To learn more about whats in each Topic, click on your preferred topic in the donut chart and click "Topic Breakdown".

Topic Breakdown



Topic Level 1

- Teaching Component
- Course Component
- Learning Environment
- Face to Face Learning
- Persons
- Remote Learning
- Institution in General
- Feedback
- Extracurricular Activities
- Structuredness
- Expenses/Fees
- Services
- Academic Support
- Expectations/Objectives
- Depth
- Pace
- Availability
- Commute/Transportation
- Hybrid Learning
- Learning Outcomes

QUALITATIVE REPORT

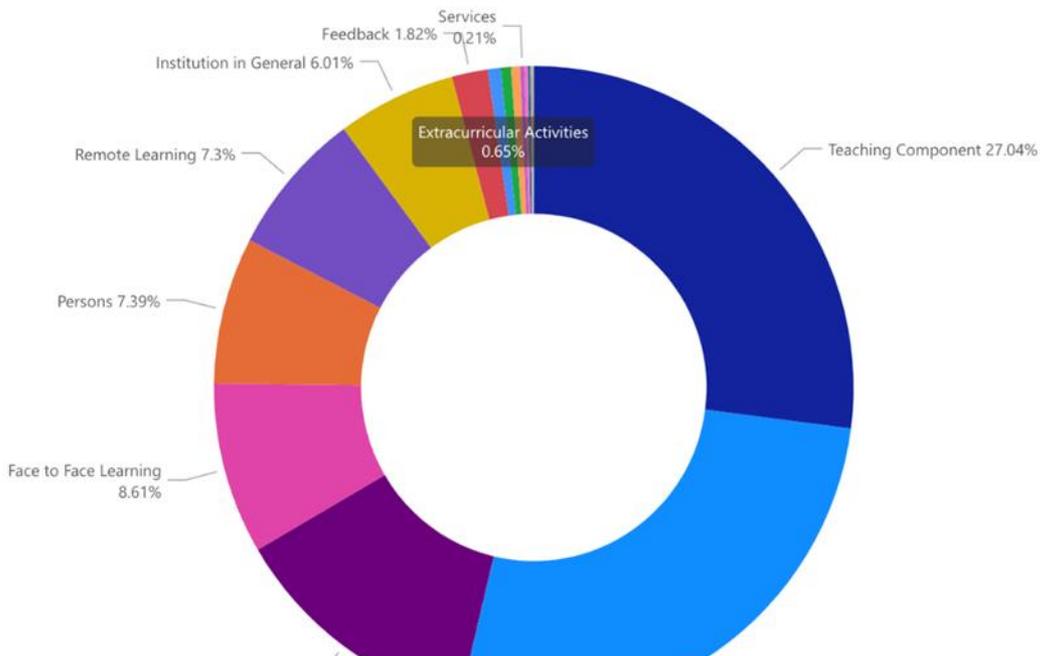
Analysis

Topic Level 1

Topic Level 2

Topic Level 3

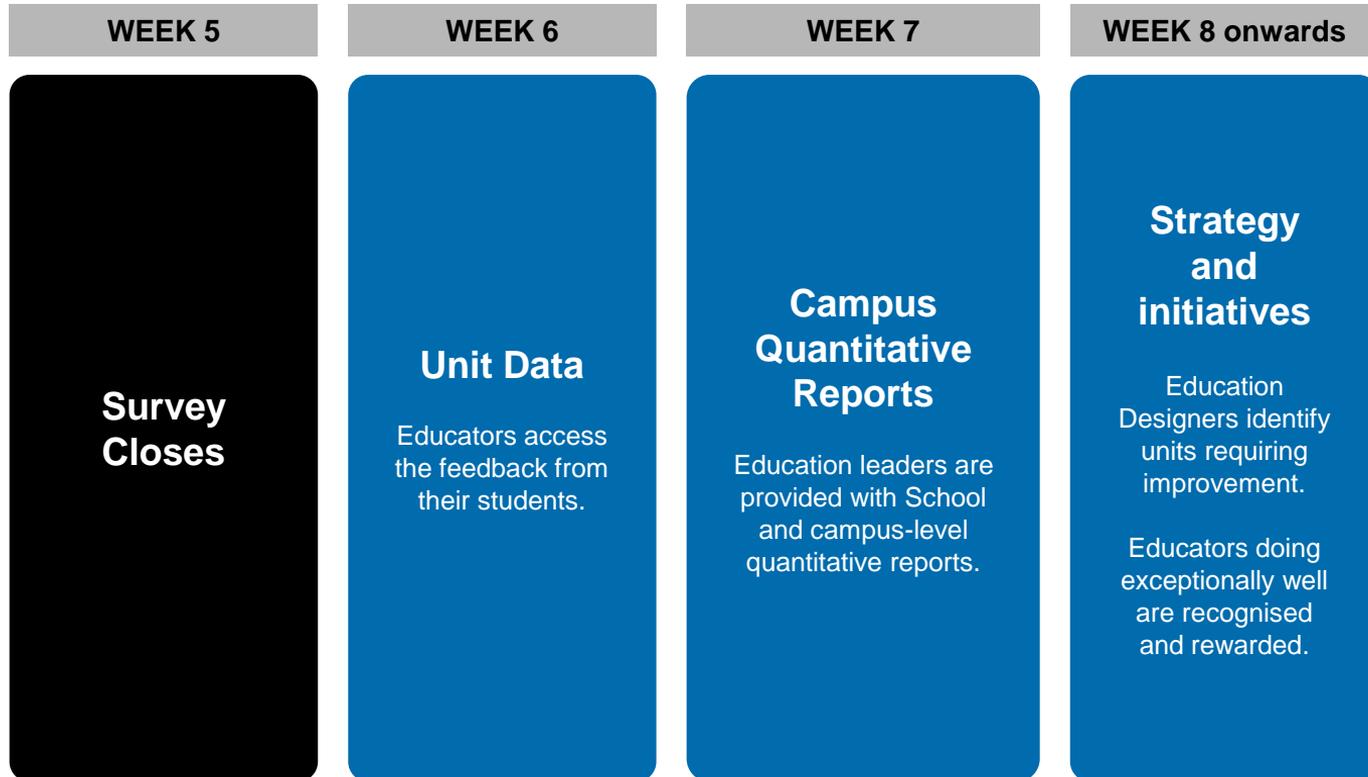
Topic Level 4



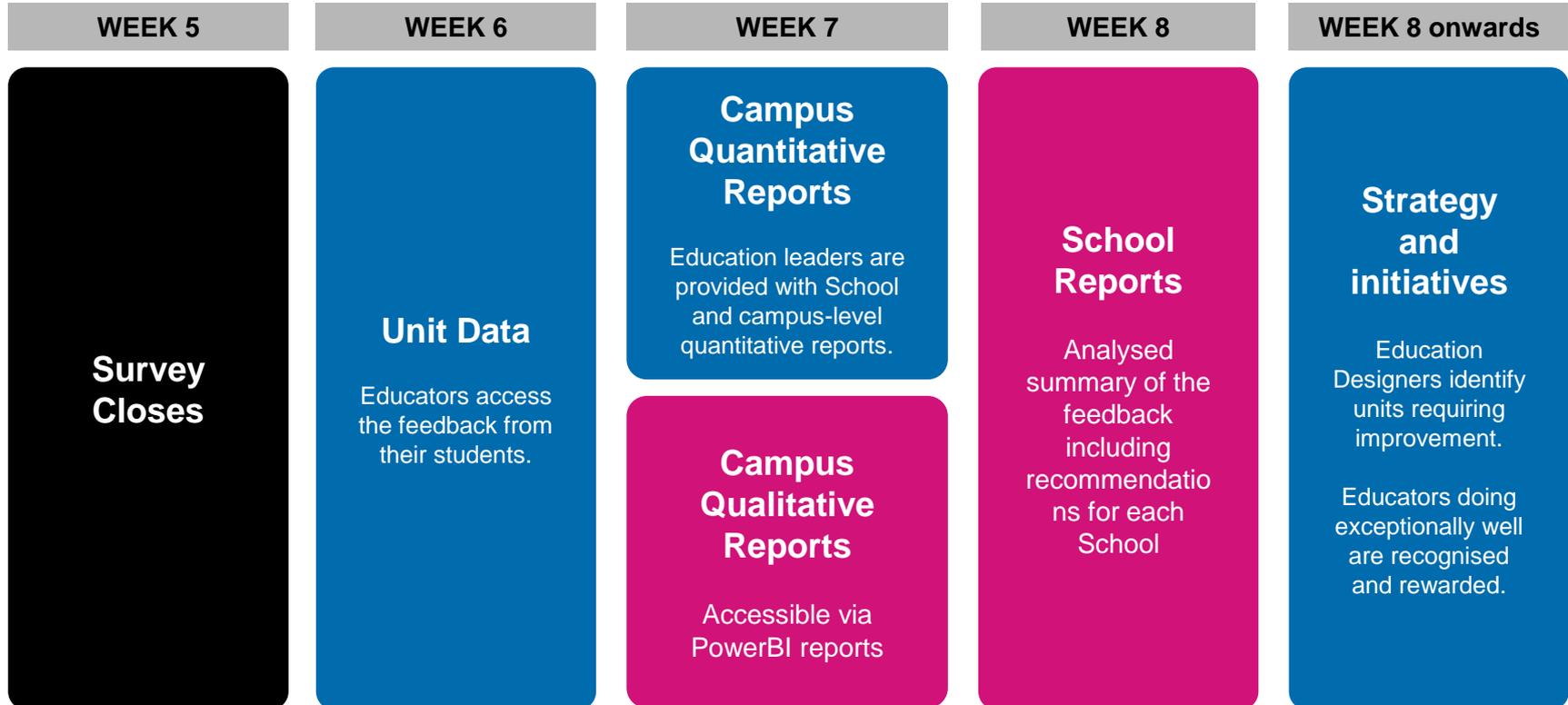
Topic Level 1

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- Availability

POST SURVEY (2022-2023)



POST SURVEY (2024)





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CONTEXT

1 School
1 Course
77 Units
50+ Educators

OBJECTIVE

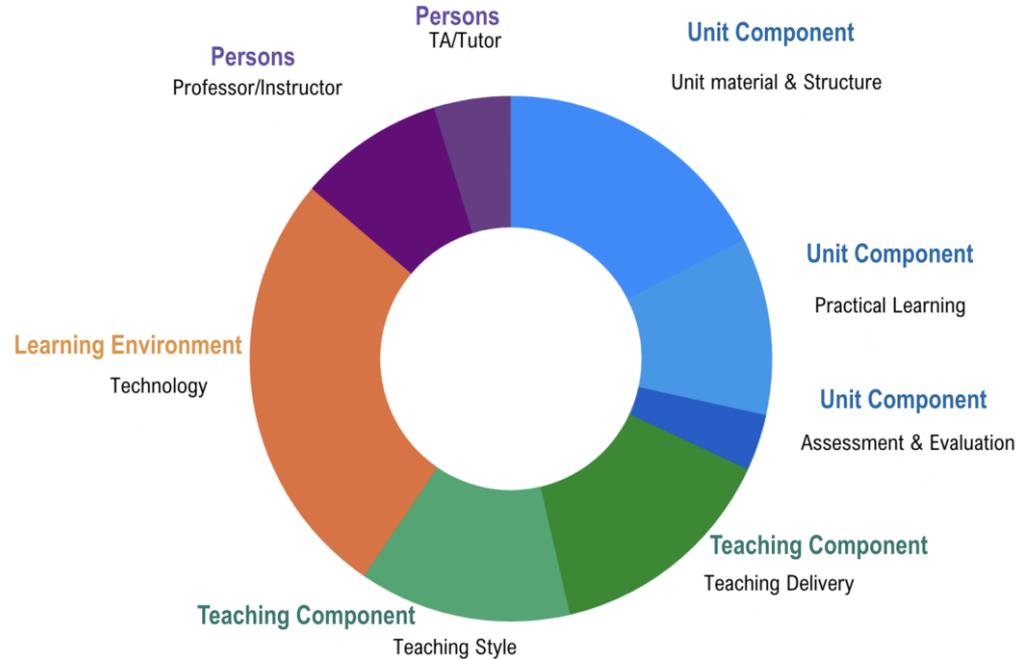
Review and ensure constructive alignment across the course

Get educator buy-in

HOW?

Establish the “why” using ESSFS qualitative data

DRIVING CHANGE



Does ESSFS help to improve SETU?

Quantitative indicators of students' experience of learning and teaching

95%

average agreement
rate for all units
taught

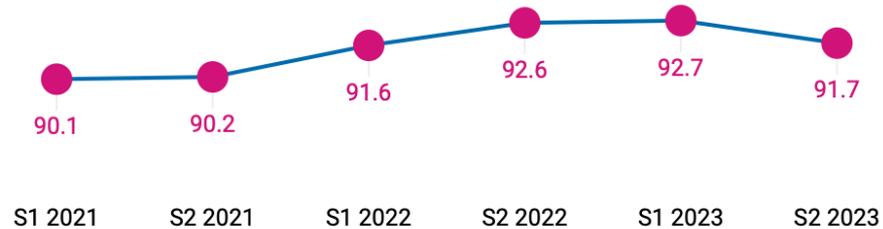
ESSFS

90%

of all units taught achieve overall
satisfaction of at least 3.8

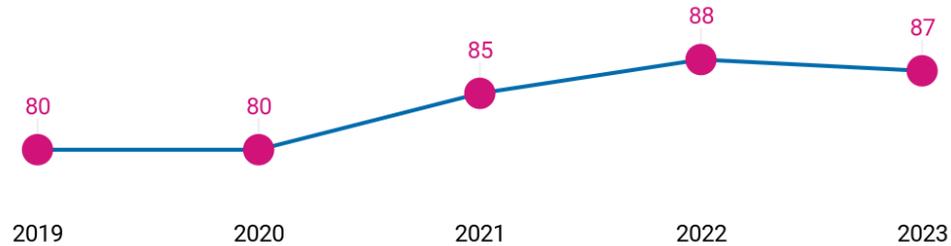
SETU

Quantitative indicators of students' experience of teaching and learning

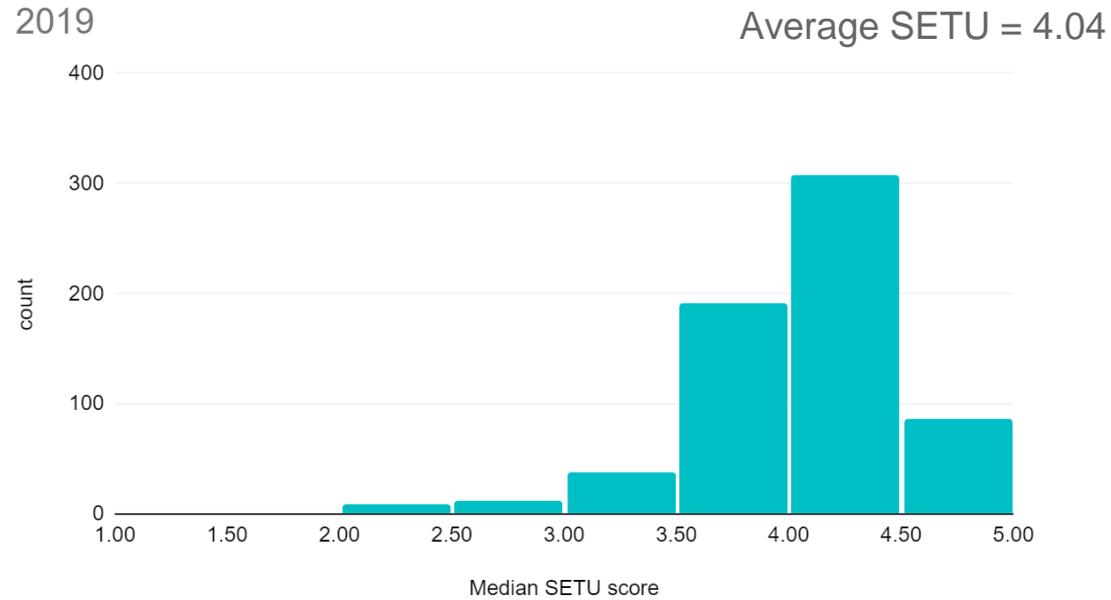


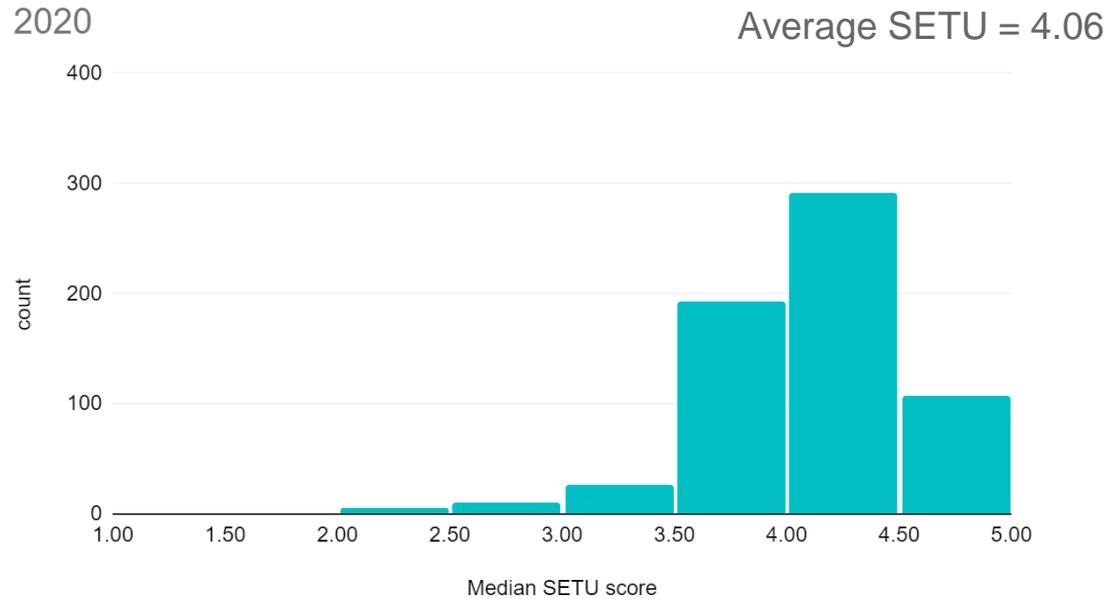
ESSFS

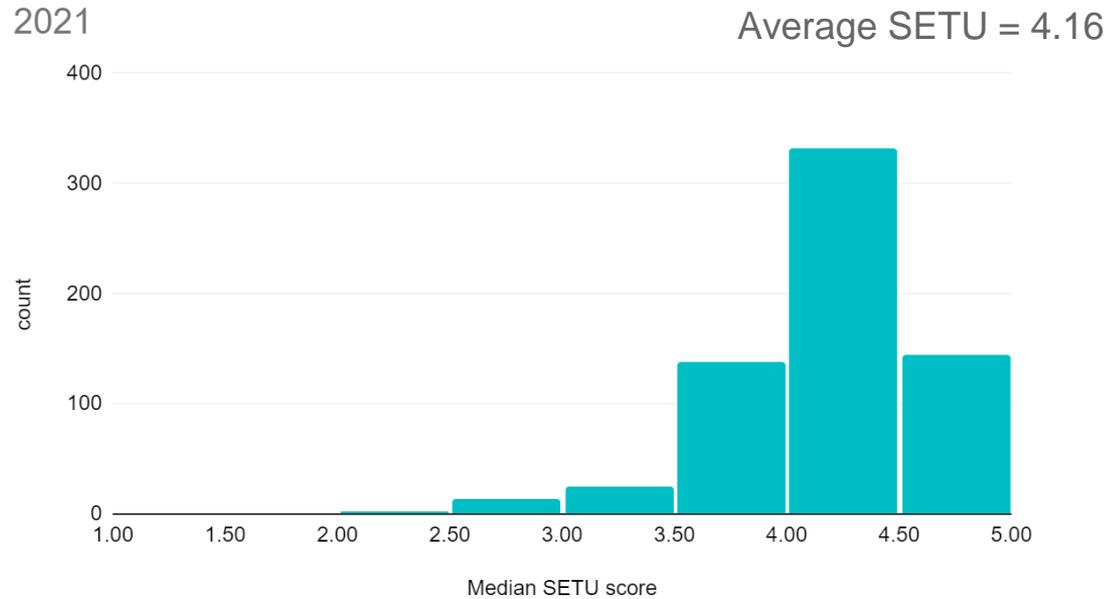
Quantitative indicators of students' experience of teaching and learning

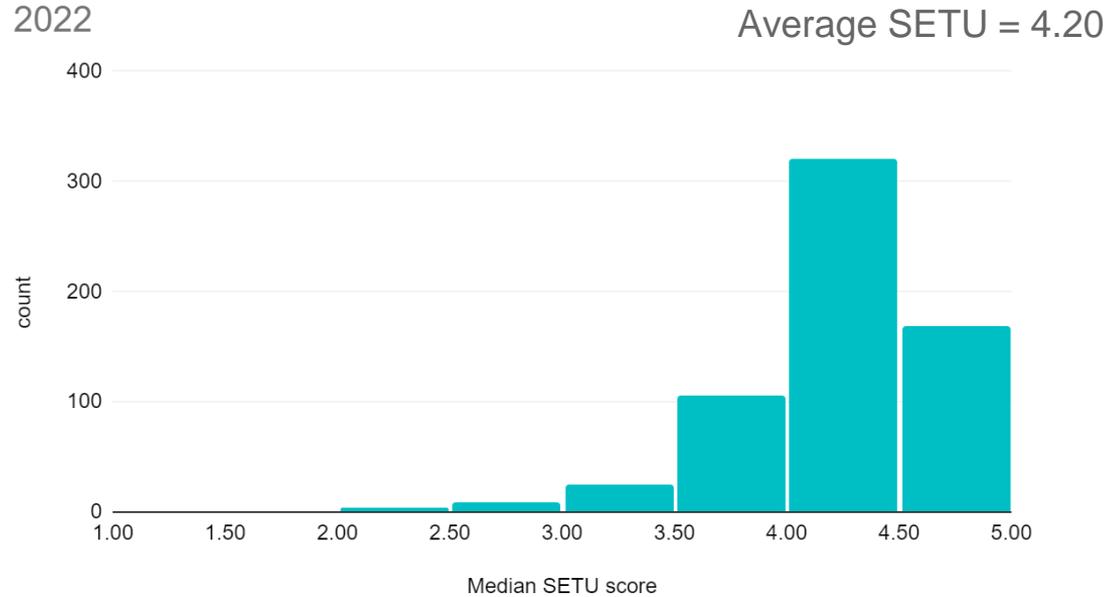


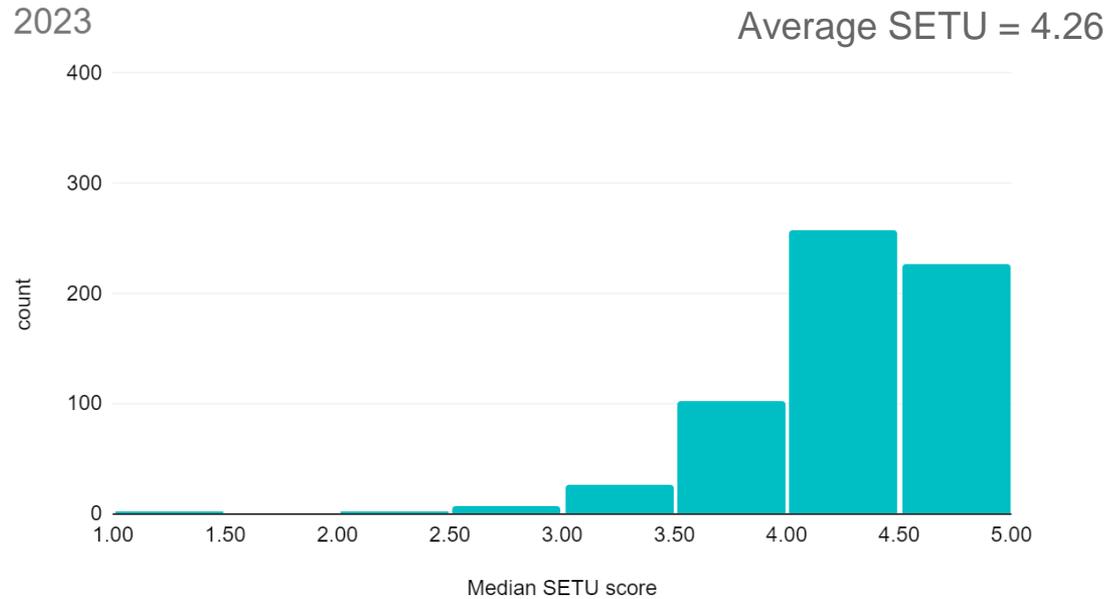
SETU











- ❑ ESSFS and SETU data from 2022 – 2023
- ❑ Grouped into two categories and four bands:

ESSFS < 95 %	SETU < 3.8
ESSFS ≥ 95 %	SETU ≥ 3.8

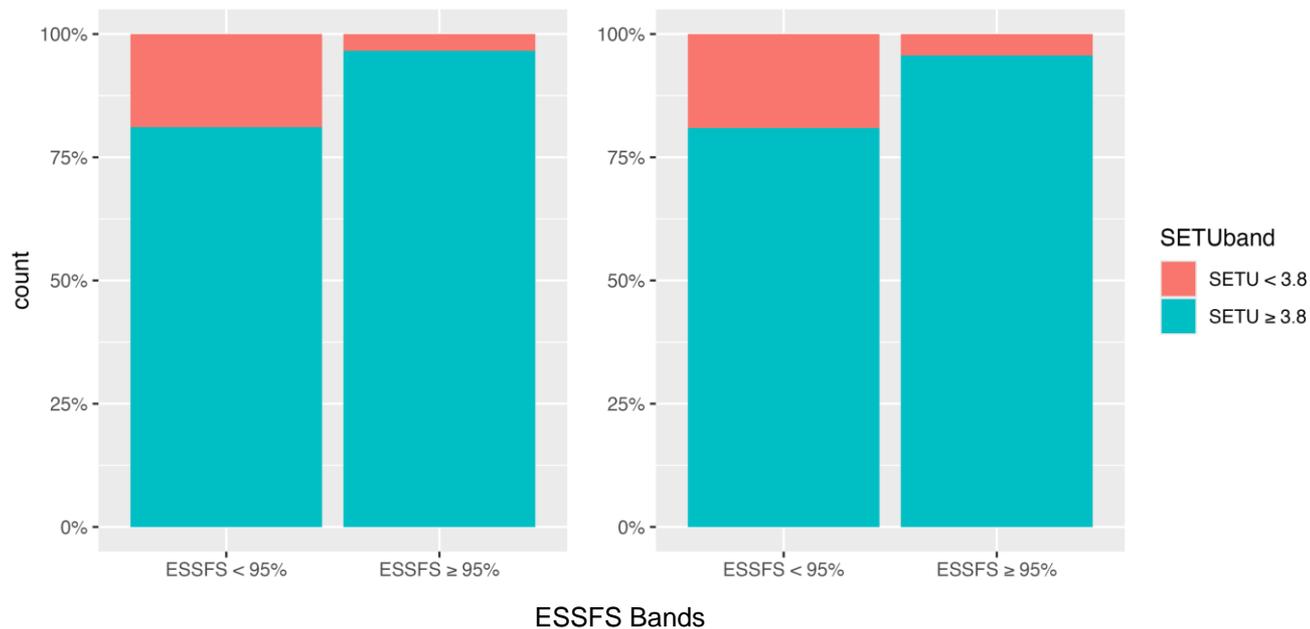
- ❑ Is there a correlation between ESSFS and SETU bands?
- ❑ Is there a correlation between ESSFS bands and SETU scores?

ESSFS & SETU ANALYSIS

SURVEY IMPACT

2022

2023



ESSFS & SETU ANALYSIS

SURVEY IMPACT

A chi-square test of independence was performed on 2022 - 2023 data to examine the relation between ESSFS and SETU scores.

The relationship between these variables was statistically significant for both years.

	2022	2023
χ^2	29.9	28.0
df	1	1
N	557	578
P value	<.001	<.001



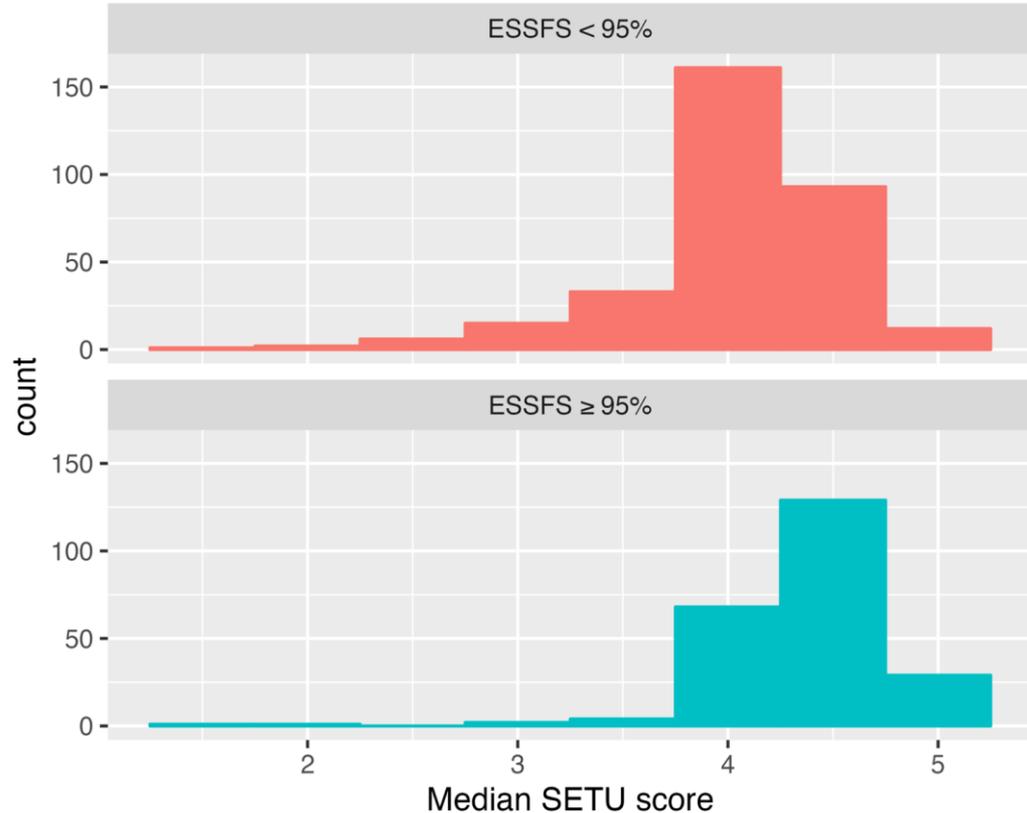
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ESSFS & SETU ANALYSIS

2022

SURVEY IMPACT





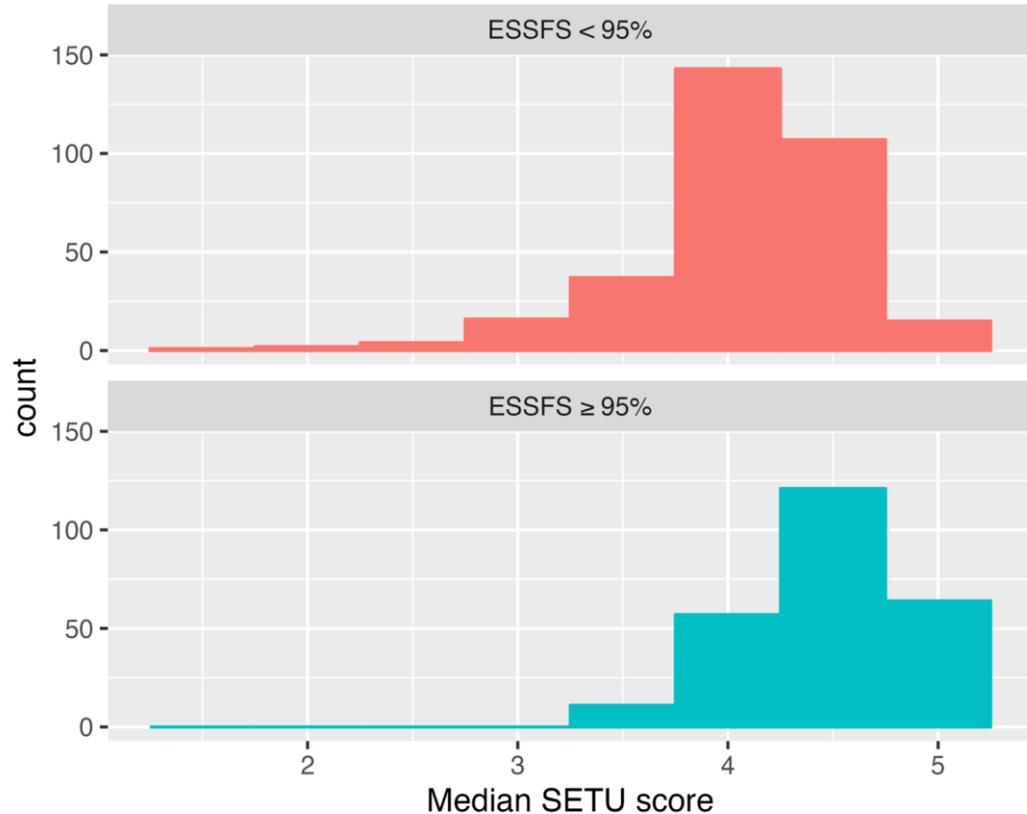
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ESSFS & SETU ANALYSIS

2023

SURVEY IMPACT





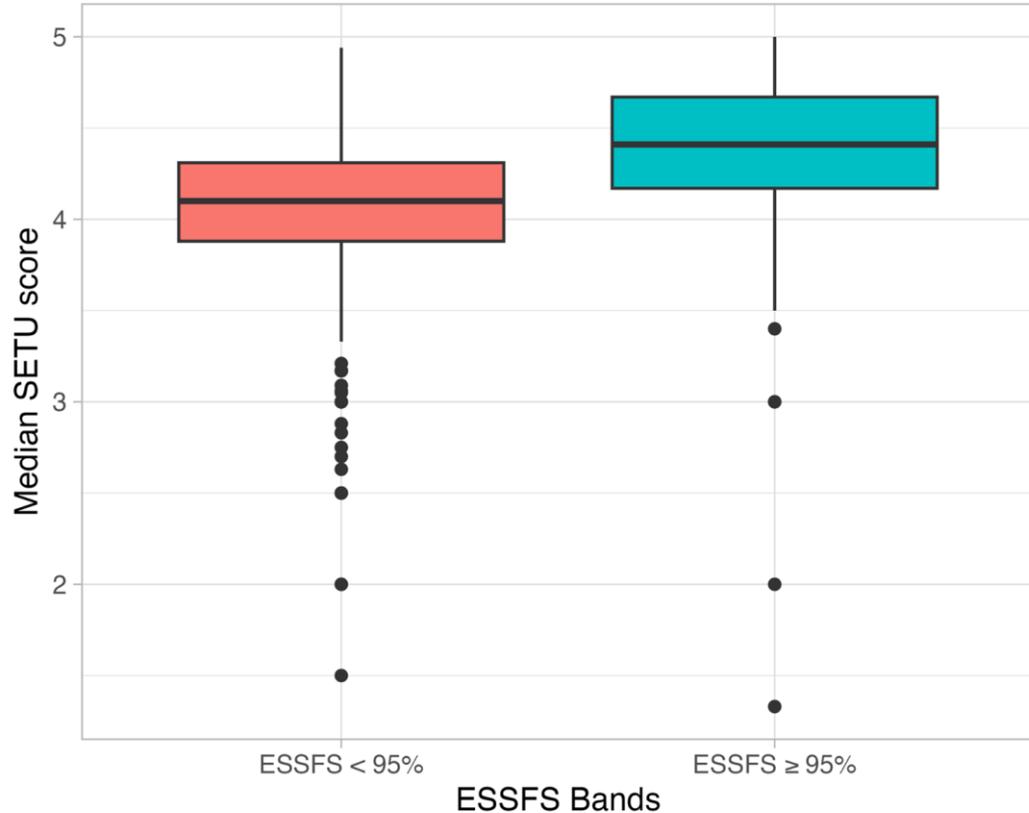
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ESSFS & SETU ANALYSIS

2022

SURVEY IMPACT





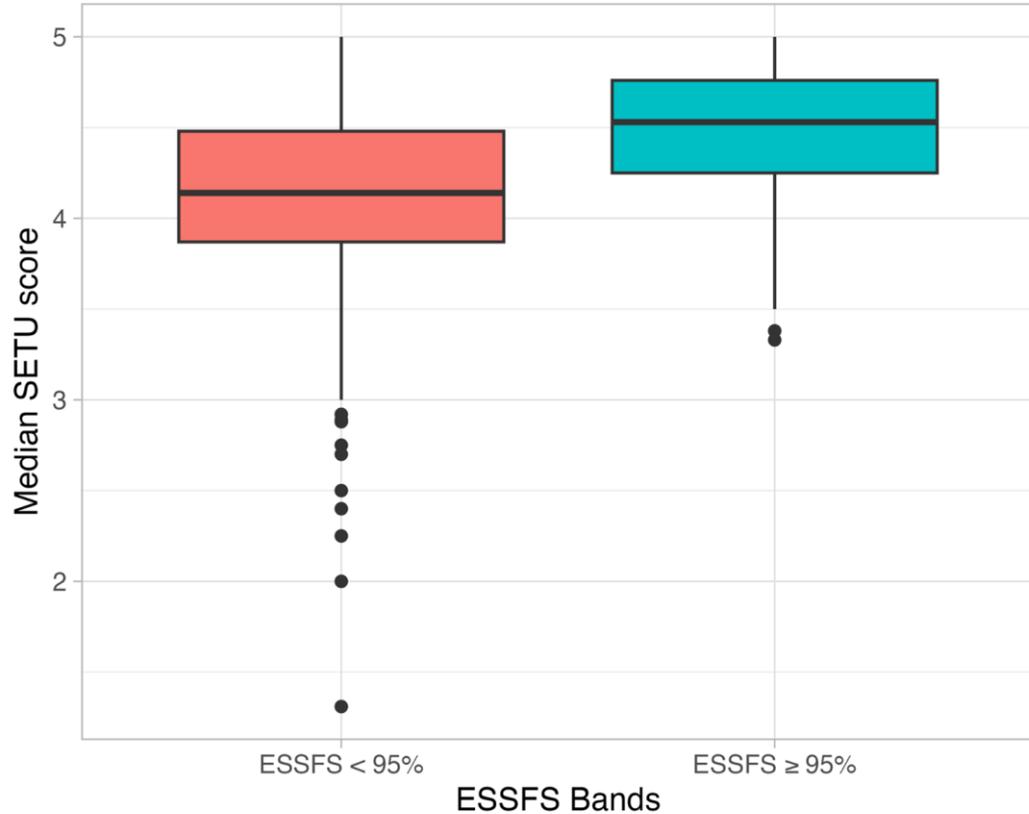
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ESSFS & SETU ANALYSIS

2023

SURVEY IMPACT



**ESSFS
&
SETU
ANALYSIS**

SURVEY IMPACT

	2022		2023	
ESSFS Band	< 95 %	≥ 95%	< 95 %	≥ 95%
Unit count (N)	323	234	325	253
Mean (SETU)	4.04	4.38	4.09	4.49
SD (SETU)	0.48	0.42	0.51	0.35
Cohen's d	0.74		0.89	
<i>p</i> -value	<.001		<.001	

Statistically significant ($p < .001$)
Large effect size (Cohen's d 0.7 – 0.9)

**ESSFS
&
SETU
ANALYSIS**

SURVEY IMPACT

CONCLUSION

Units with high ESSFS agreement rates
are more likely to have better overall
student satisfaction in SETU

CHALLENGES AND OPPORTUNITIES

Survey Administration

- System improvement
- Data integration
- Moodle integration

Data Analysis (MLY)

- Topic and sentiment coding
- Quality of recommendations and alerts
- Blue integration

Feedback → Improvement

- Addressing feedback in time
- Balancing *centrally-led* and *educator-led* initiatives



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THANK YOU

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Q&A

