# Towards a Data-Driven Teaching Philosophy
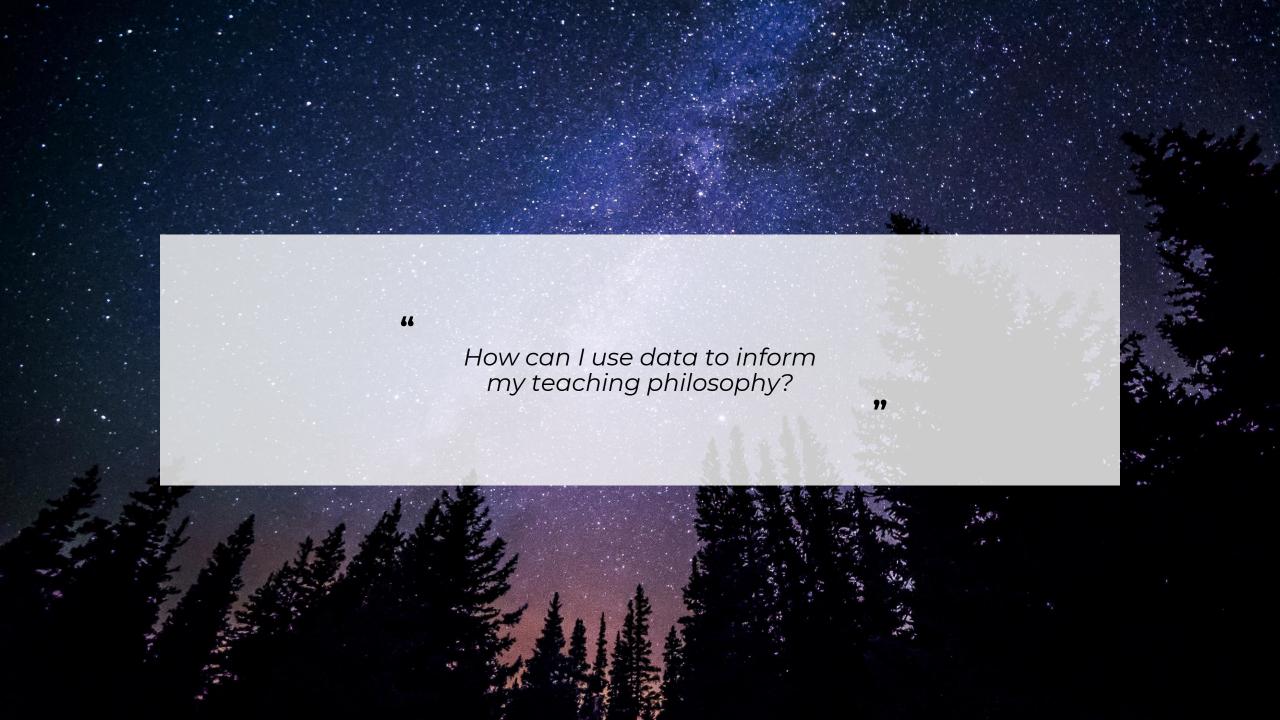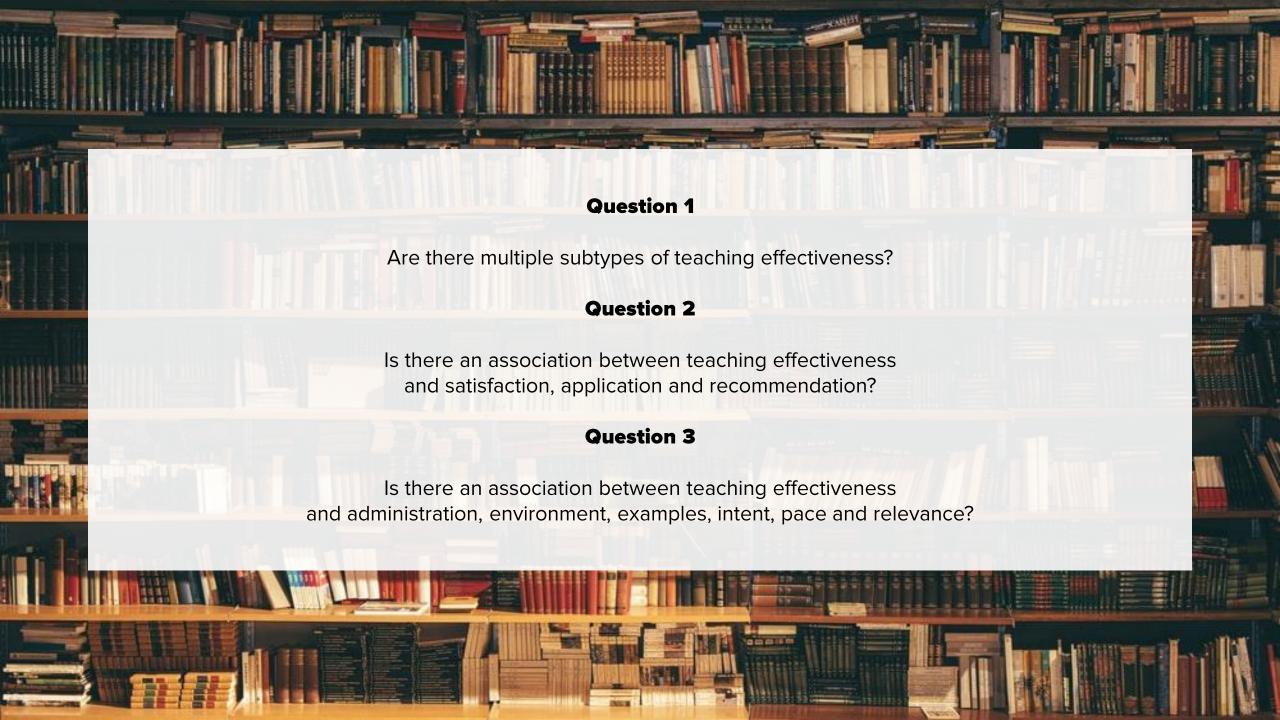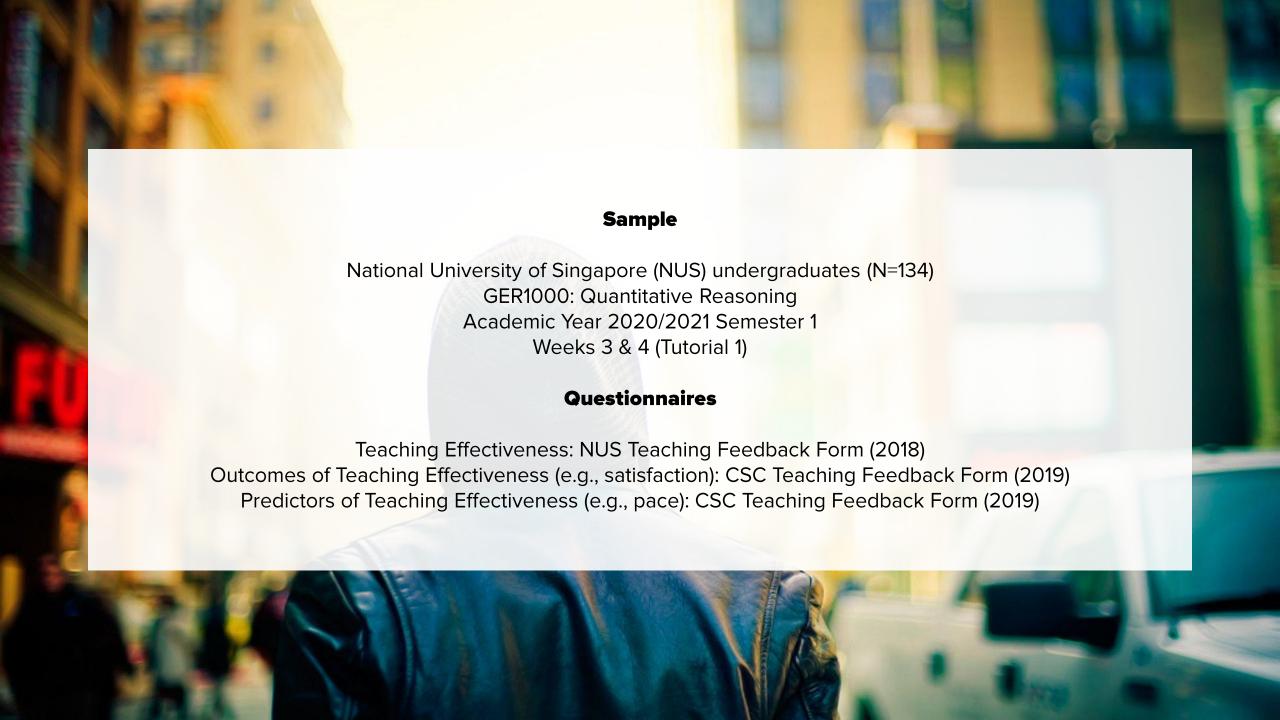
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> "
> *How can I use data to inform*
> *my teaching philosophy?*
> "

## Question 1

Are there multiple subtypes of teaching effectiveness?

## Question 2

Is there an association between teaching effectiveness
and satisfaction, application and recommendation?

## Question 3

Is there an association between teaching effectiveness
and administration, environment, examples, intent, pace and relevance?

**Sample**

National University of Singapore (NUS) undergraduates (N=134)
GER1000: Quantitative Reasoning
Academic Year 2020/2021 Semester 1
Weeks 3 & 4 (Tutorial 1)

**Questionnaires**

Teaching Effectiveness: NUS Teaching Feedback Form (2018)
Outcomes of Teaching Effectiveness (e.g., satisfaction): CSC Teaching Feedback Form (2019)
Predictors of Teaching Effectiveness (e.g., pace): CSC Teaching Feedback Form (2019)
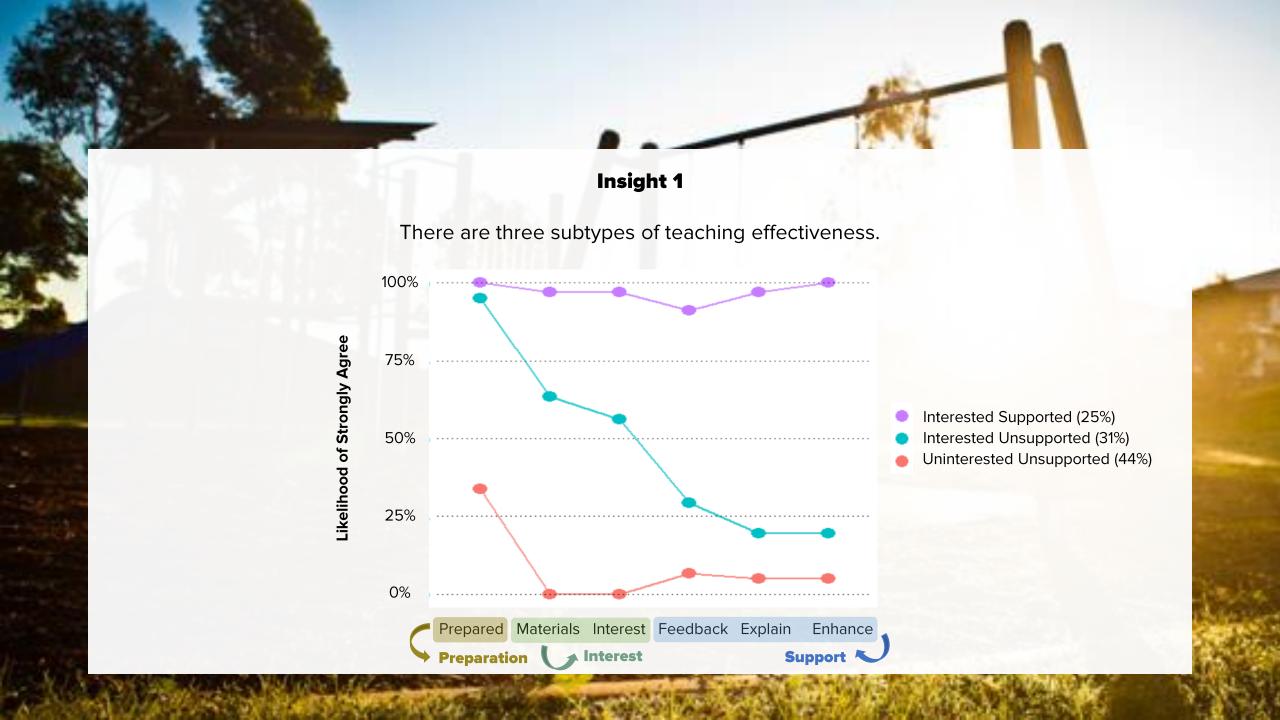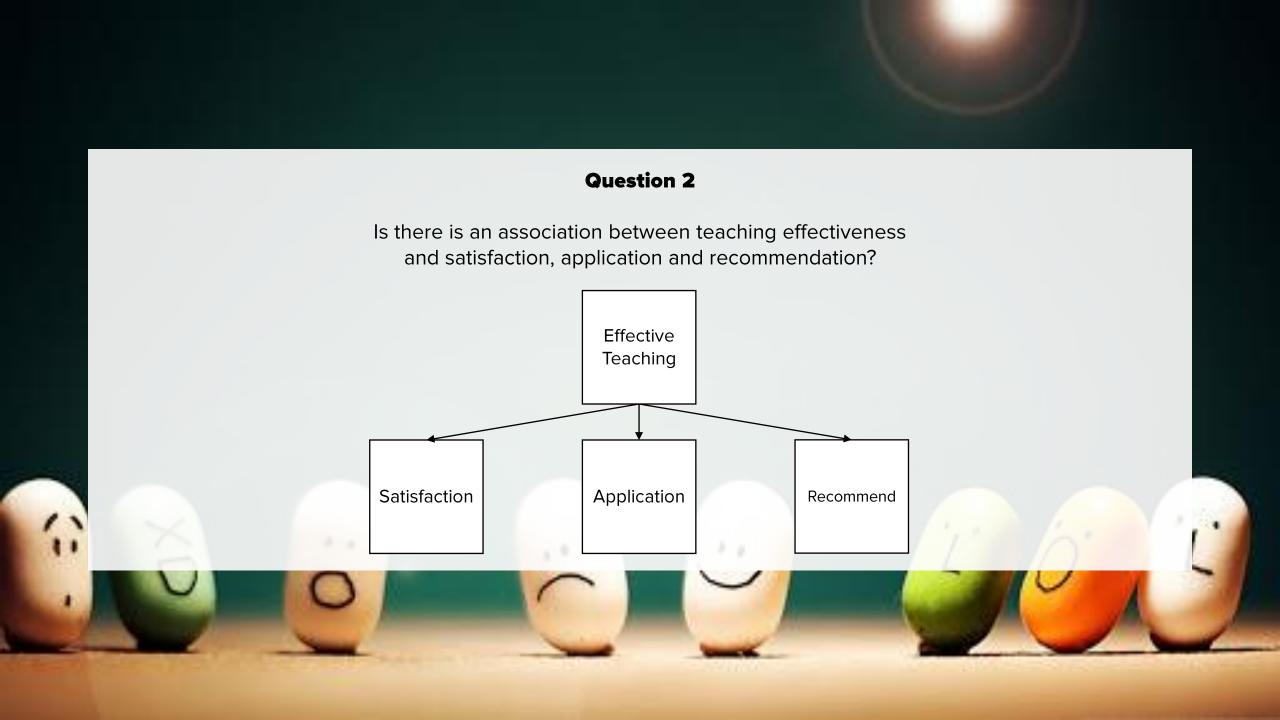
# Question 1

Are there multiple subtypes of teaching effectiveness?

| Prepared | The teacher was well-prepared. |
|---|---|
| Materials | The teacher provided me with sufficient and interesting materials for me to learn the subject. |
| Interest | The teacher increased my interest in the subject. |
| Feedback | The teacher provided timely and useful feedback. |
| Explain | The teacher was able to explain difficult materials clearly. |
| Enhance | The teacher has enhanced my thinking ability. |

"The degree to which a teacher **prepares** such that
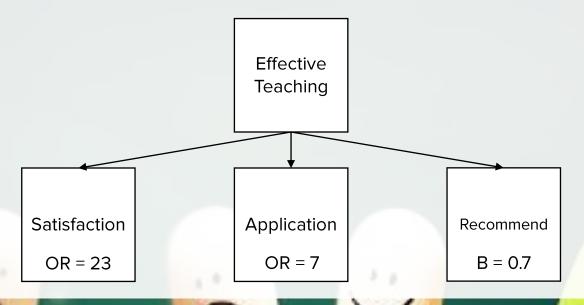students become more **willing** and **able** to learn the subject."

**Insight 1**

There are three subtypes of teaching effectiveness.

## Question 2

Is there is an association between teaching effectiveness
and satisfaction, application and recommendation?

## Question 2

Is there is an association between teaching effectiveness
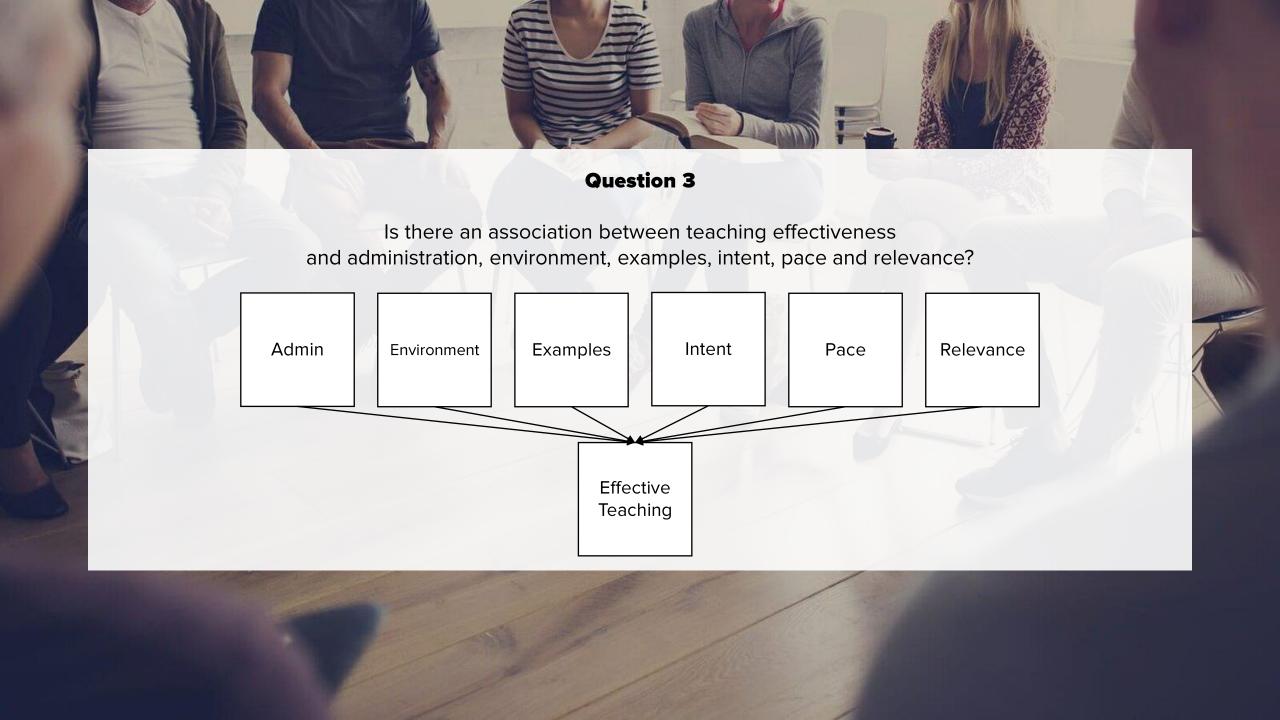and satisfaction, application and recommendation?

| Satisfaction | On the whole, I am satisfied with the lesson. |
|---|---|
| Application | I am willing to apply what I learnt. |
| Recommendation | How likely are you to recommend this tutorial to a friend? |

**Insight 2**
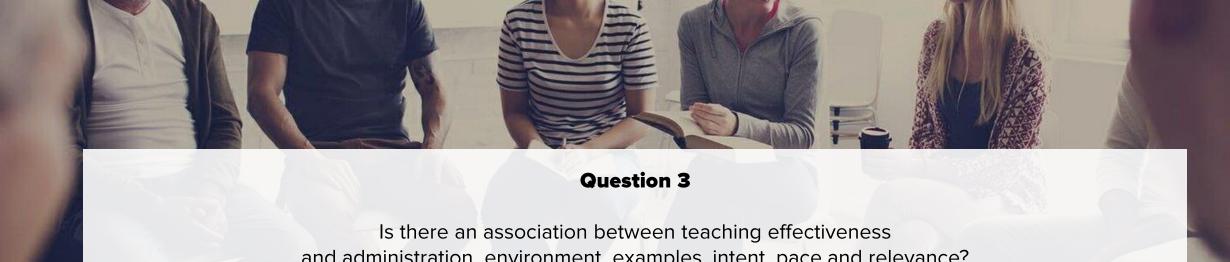
There is an association between teaching effectiveness and satisfaction, application and recommendation.

Effective Teaching

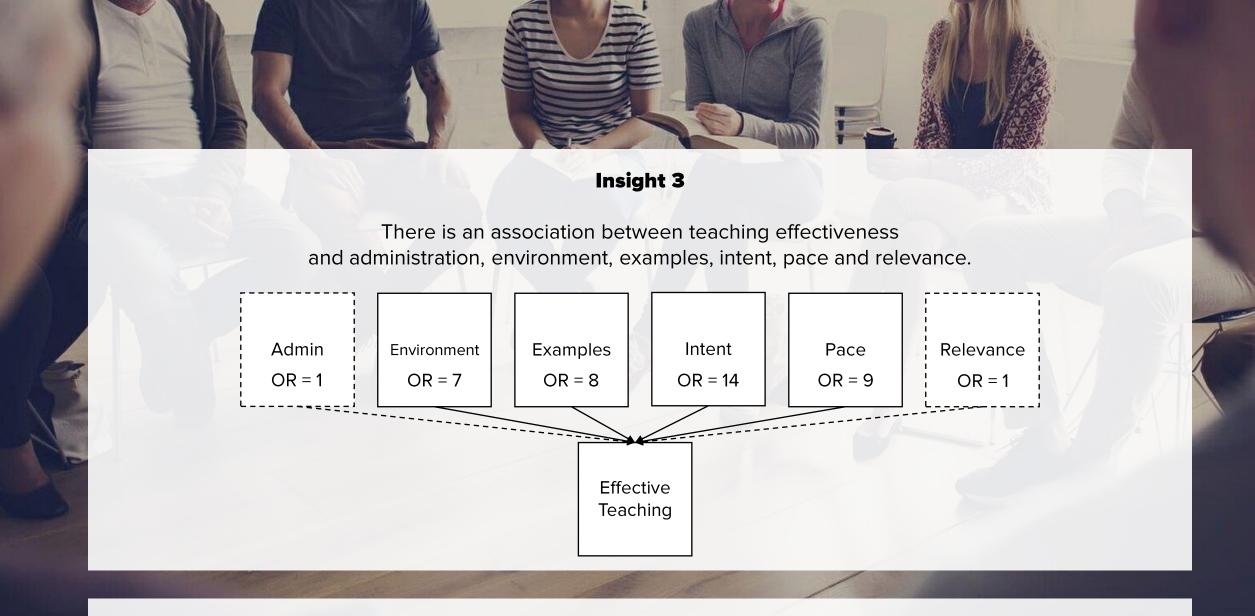Satisfaction

OR = 23

Application

OR = 7

Recommend

B = 0.7

*Note.* Odds Ratios (OR) and Regression Coefficients (B) indicate comparisons between interested-supported and interested-unsupported subtypes.

**Question 3**

Is there an association between teaching effectiveness
and administration, environment, examples, intent, pace and relevance?

| Admin | Environment | Examples | Intent | Pace | Relevance |

Effective
Teaching

## Question 3

Is there an association between teaching effectiveness
and administration, environment, examples, intent, pace and relevance?

| Administration | I am satisfied with the tutorial administration and logistical support. |
|---|---|
| Environment | The tutorial environment was conducive for learning. |
| Examples | My learning was enhanced by the tutor's ability to explain concepts and give practical examples. |
| Intent | The learning outcomes of the tutorial were met. |
| Pace | I was comfortable with the pace of the tutorial. |
| Relevance | I acquired knowledge, skills or insights useful to me or my major. |

# Insight 3

There is an association between teaching effectiveness
and administration, environment, examples, intent, pace and relevance.

| Admin | Environment | Examples | Intent | Pace | Relevance |
|-------|-------------|----------|--------|------|-----------|
| OR = 1 | OR = 7 | OR = 8 | OR = 14 | OR = 9 | OR = 1 |

Effective Teaching

*Note.* Odds Ratios (OR) indicate comparisons between interested-supported and interested-unsupported subtypes.
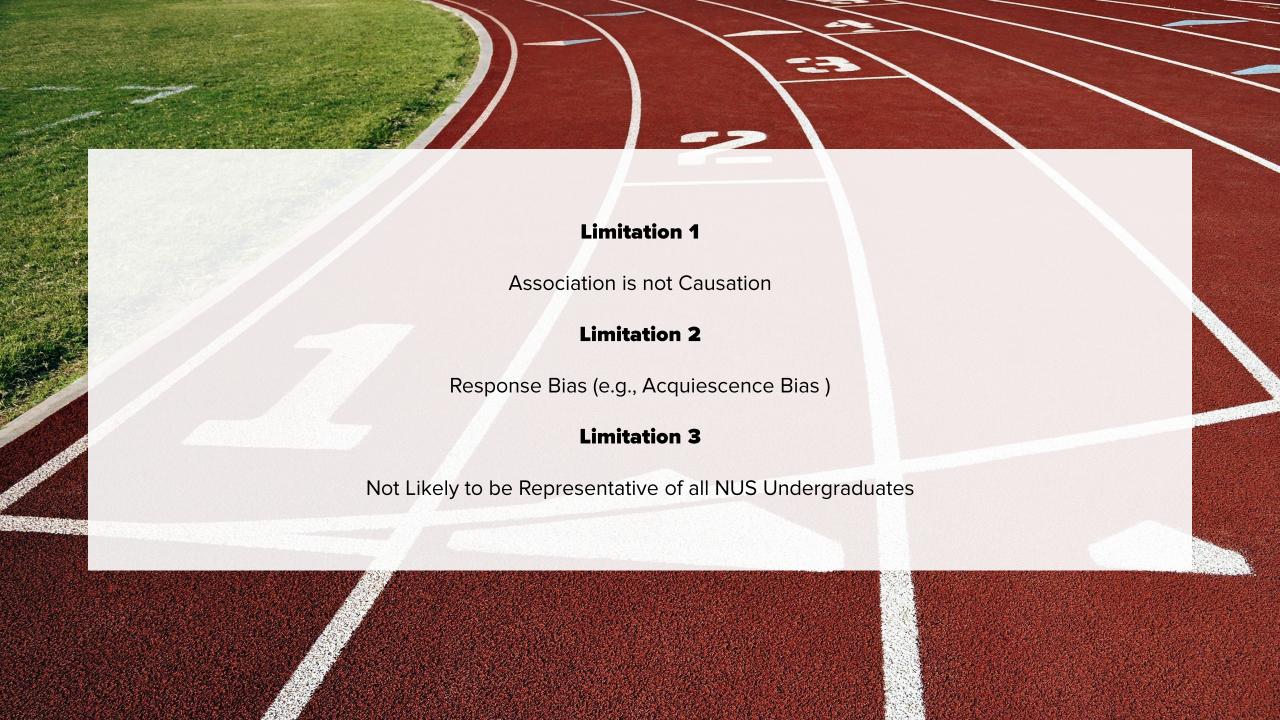
## Insight 1

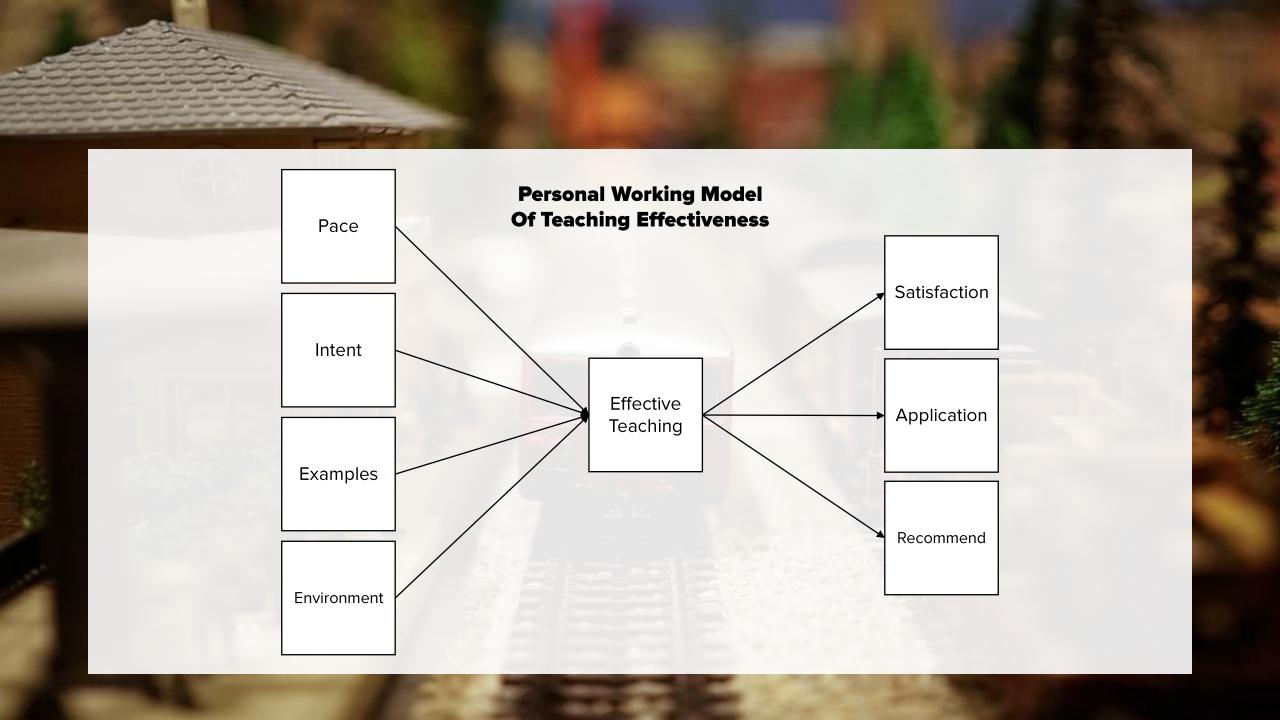There are three subtypes of teaching effectiveness.
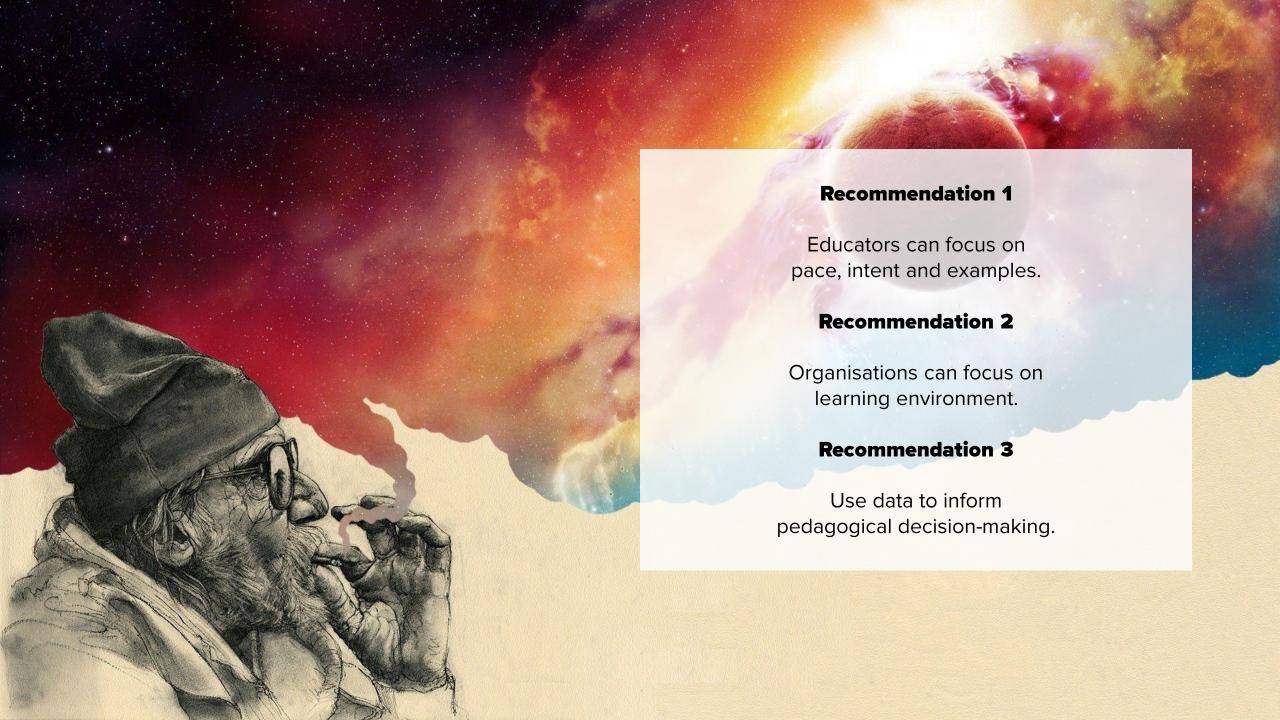
## Insight 2

There is an association between teaching effectiveness
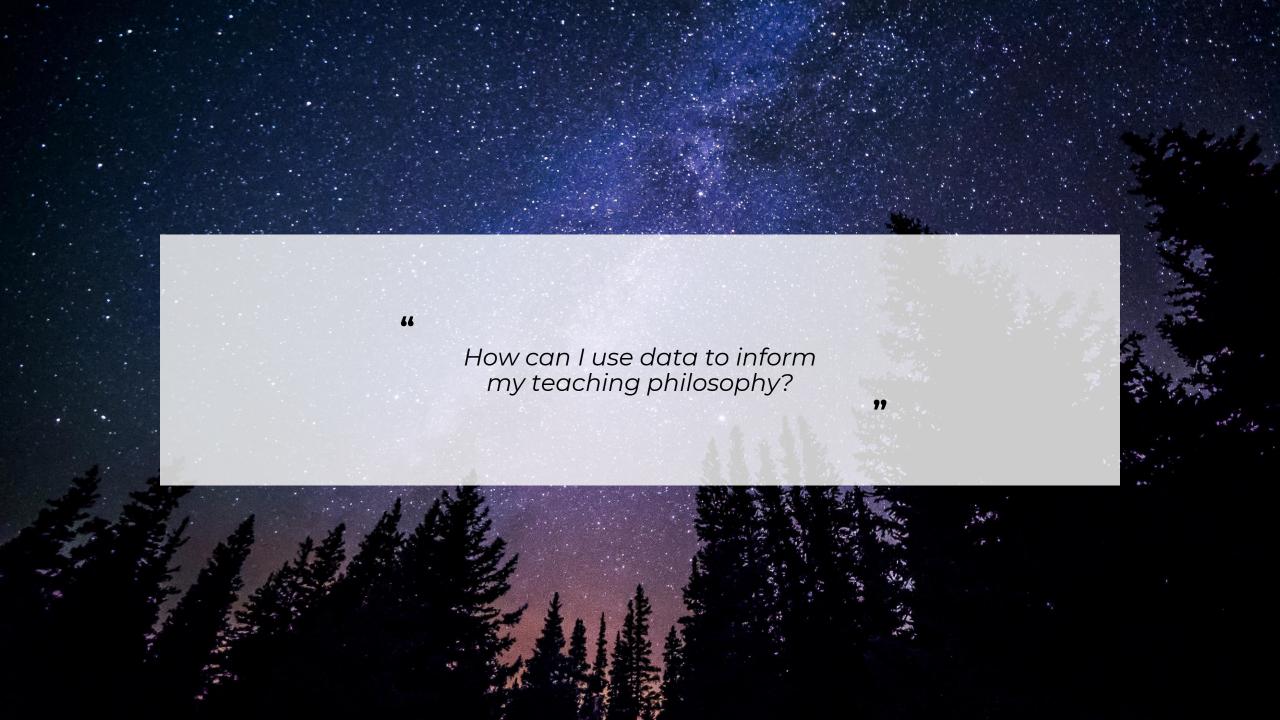and satisfaction, application and recommendation.

## Insight 3

There is an association between teaching effectiveness
and environment, examples, intent and pace,
but neither admin nor relevance.

**Limitation 1**

Association is not Causation

**Limitation 2**

Response Bias (e.g., Acquiescence Bias )

**Limitation 3**

Not Likely to be Representative of all NUS Undergraduates

**Personal Working Model
Of Teaching Effectiveness**

Pace

Intent

Examples

Environment

Effective
Teaching

Satisfaction

Application

Recommend

**Recommendation 1**

Educators can focus on
pace, intent and examples.

**Recommendation 2**

Organisations can focus on
learning environment.

**Recommendation 3**

Use data to inform
pedagogical decision-making.

> *How can I use data to inform my teaching philosophy?*

# Towards a Data-Driven Teaching Philosophy

Thank You