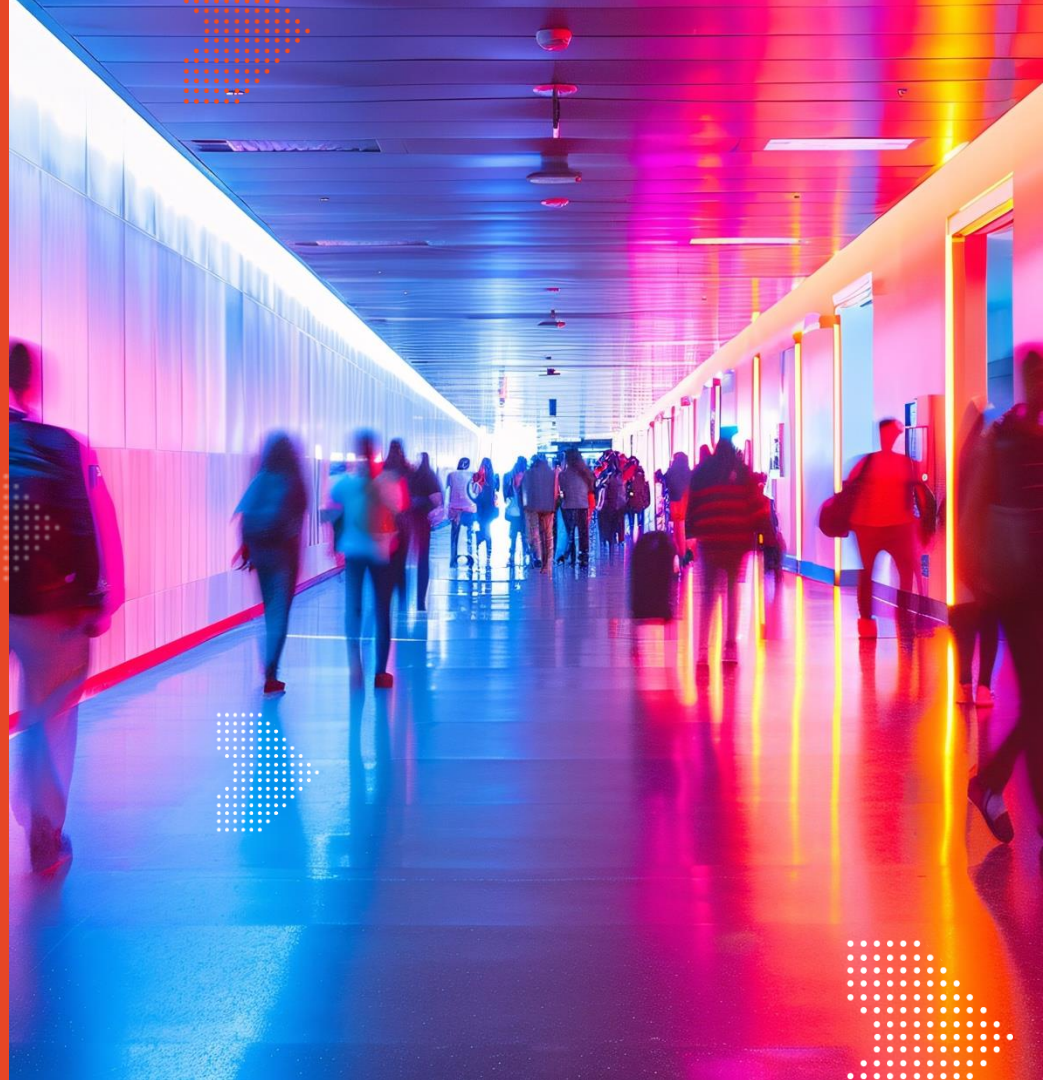
L&T:25

Showcase – Session 2A

Wednesday 12th November



THE UNIVERSITY OF SYDNEY
Business School

Showcase – Session 2A

Theme: Critical and creative thinking

Chair: Dr Alison Casey

Senior Lecturer in Educational Development
The University of Sydney Business School

Showcase 1

Critical Thinking in Cogniti Conversations

Joseph Boulis
Dr Alison Casey

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Critical Thinking in Cogniti Conversations

Stimulating student
critical thinking development
in conversations with GenAI

Dr Alison Casey
- Business Co-Design Team
Joseph Boulis
– International Business

School of Business
University of Sydney

THE UNIVERSITY OF SYDNEY
Business School

We recognise and pay respect to the Elders and communities - past, present, and emerging - of the lands that the University of Sydney's campuses stand on – the lands of the Gadi people. For thousands of years, they have shared and exchanged knowledge across innumerable generations for the benefit of all.

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Basic Clarification	Bases for a decision	Inference	Advanced Clarification
• Focus on the question • Analyse arguments • Ask and answer clarification questions • Understand and use multiple modes of data representation	• Judge credibility of a source • Observe and report • Use background knowledge • Situational awareness	• Make deductions • Judge deductions • Make inductive inferences and arguments • Argument and inference to best explanation • Make and judge value judgements	• Define terms and judge definitions • Handle equivocation • Attribute and judge unstated assumptions • Deal with fallacy labels • Metacognition • Think suppositionally

Critical thinking

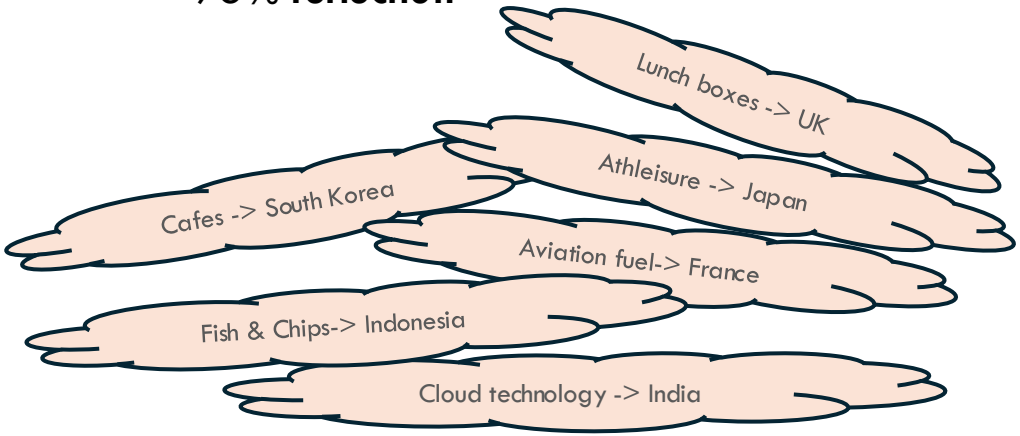
How can we tell when we see it?

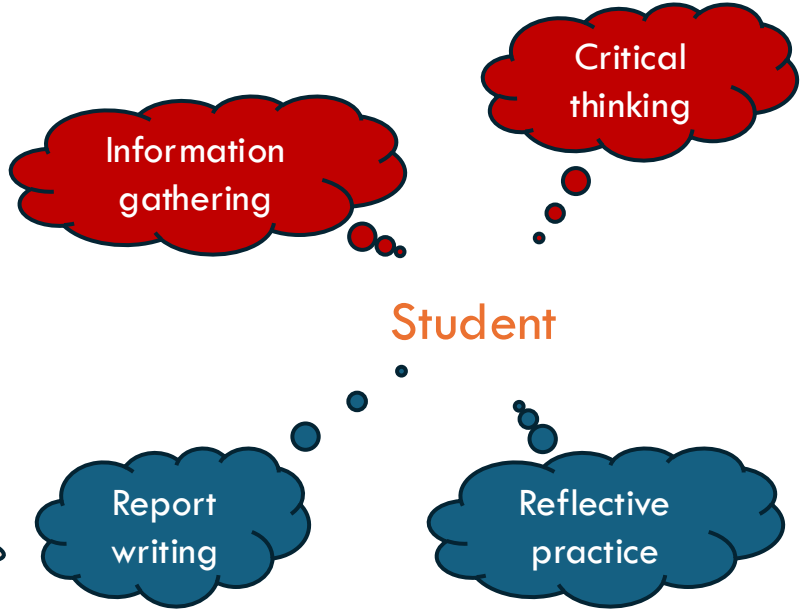
Andreucci-Annunziata, P., Riedemann, A., Cortés, S., Mellado, A., del Río, M. T., & Vega-Muñoz, A. (2023). Conceptualizations and instructional strategies on critical thinking in higher education: A systematic review of systematic reviews. *Frontiers in Education (Lausanne)*, *8*. https://doi.org/10.3389/feduc.2023.1141686

Context – International Entrepreneurship

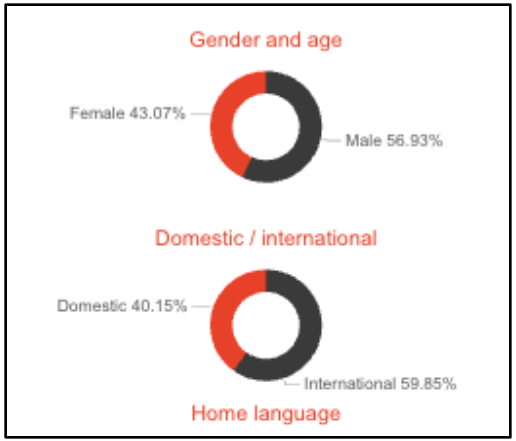
Assessment

- **Feasibility report** on introducing a product to a new international market
- AI assisted
- 75% **reflection**





Degree	No. of Students
Bachelor of Commerce	49
Undergraduate Study Abroad	23
Bachelor of Commerce & Bachelor. Of Advanced Studies	16
Undergraduate Exchange Program	13
Bachelor of Arts	11
Bachelor of Economics	9
Bachelor of Arts & Bachelor. Of Advanced Studies	4
Bachelor of Advanced Computing	3
Bachelor of Commerce & Bachelor of Law	2
Bachelor of Science & Bachelor of Advanced Studies	2
Bachelor of Arts & Bachelor of Advanced Studies	1
Bachelor of Engineering (Honours) Aeronautical Eng. & Space	1
Bachelor of Engineering Biomedical	1
Bachelor of Project Management	1
Bachelor of Psychology	1



Who are they?

S2 2025

GenAI agent

Information gathering?

Other Internet sources

Feasibility Report

Critical thinking

Reflection

Images generated with Adobe Firefly

What did they use GenAI for?

Seek information
‘Outline the possible strengths and weaknesses of the product in Japan, especially in major cities and suburban areas’

Ideation
‘Which country will an electric vehicle fail to enter?’

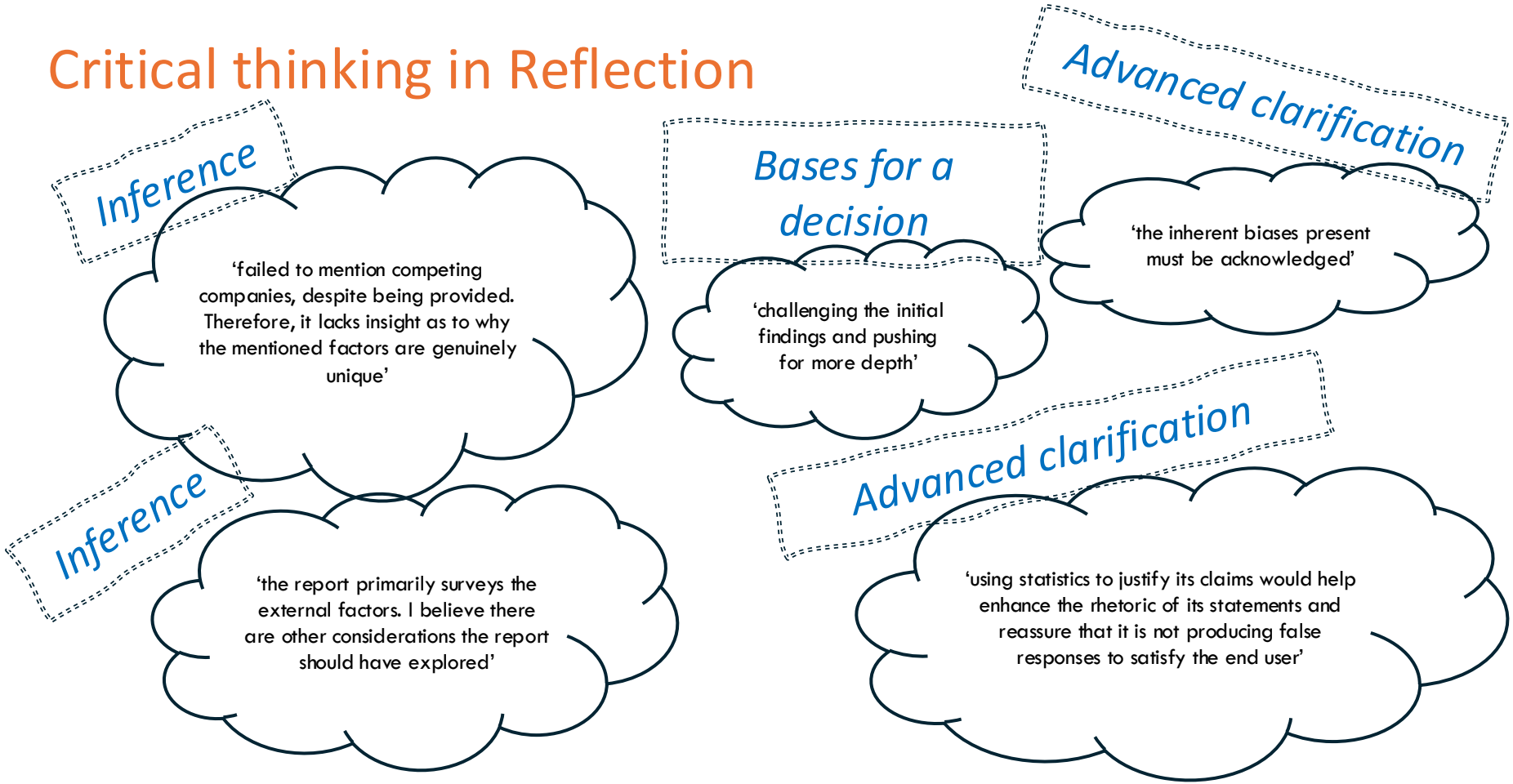
Refine report
‘Can you please elaborate on the market overview? … give me more context of the market with solid data.’

Json Prompting
‘“task": "Generate response",
"context": {
"purpose": "Draft detailed and thorough feasibility report",
"focus": [
"Business viability",
"Market analysis",
"Digital and e-commerce trends",
"Product adaptation vs standardization"
.’

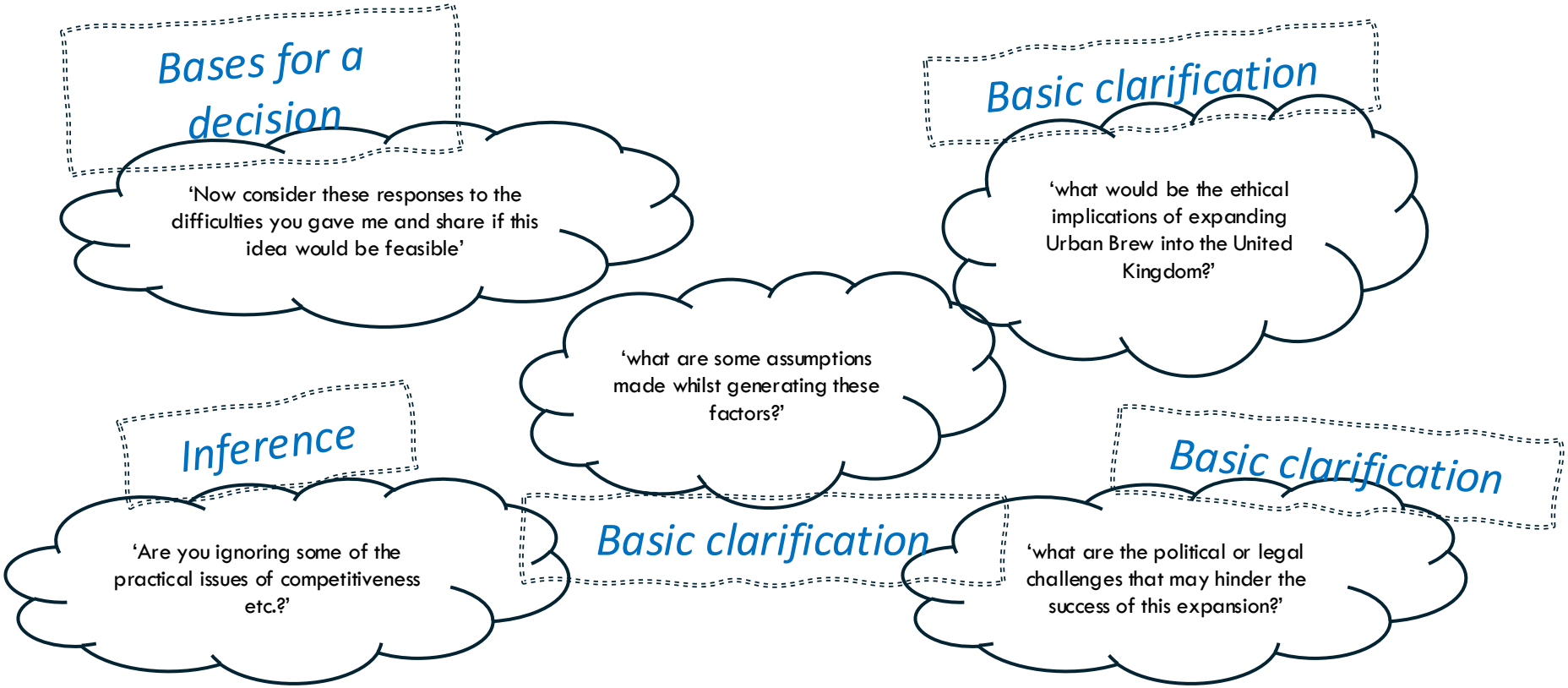
Write report
‘Generate Feasibility Report of Gundam Cafe Expansion from Japan to South Korea’

Use frameworks
‘Expand on how the CAGE framework will impact Budgy Smuggler entering into the US market within this report’

Critical thinking in Reflection



Critical thinking in GenAI conversations



Bringing them together – the rubric

Criteria	HD	D	C	P	F
GenAI	Creativity and insight			Described	
Frameworks & Theory	Justification of sources			List	
Strategies & Decisions	Evaluation and integration			No justification	
Communication	Organisation and rhetorical strategies			Inconsistent	
Reflection & analysis	Assumptions and fallacies identified, metacognition			Unstructured response to experience	
Research	Evaluation of source quality and relevance			Included	

All images generated by Adobe Firefly

Takeaways

- If you don't have visibility over the conversations students are having with GenAI, you are **missing part of the critical thinking** picture
- Knowing this, giving students a **critical thinking framework** and some **language** around critical thinking can help shape their interactions and make them more efficient in using GenAI. A rubric can fulfil this function
- **Partner** with them - give them a collaborative practice session guided by a tutor
- They **must** supply you with the conversation, explicitly giving you oversight of the conversations (ethics)

Questions

Where is critical thinking visible in your courses?

Showcase 2

Enhancing Business Analytics Case Studies with Partial Information Exercises

Dr Mostafa Khatami
Dr Quan Spring Zhou

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Enhancing Business Analytics Case Studies with Partial Information Exercises

Mostafa Khatami **Quan (Spring) Zhou**

Discipline of Supply Chain and Analytics
School of Business
University of Wollongong

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AUSTRALIA

Partial Information Exercise

- **Case studies** are central to business education, building critical thinking and problem-solving.
- Traditional cases give full detail, limiting exposure to **real-world uncertainty**.
- PIE introduces gaps, requiring students to seek missing data through **inquiry**.
- In-class, group-based: missing data shared only if students ask **targeted questions**.

Implementation - Example

Machine A

Pages	Time hrs
37,401	9.75
89,688	17.86
14,669	4.75
93,730	26.62
83,958	16.70
33,648	9.50
72,605	15.91
55,945	16.31
75,549	23.11
12,731	5.53
89,352	20.13
12,689	3.83

Machine B

Pages	Time hrs
62,872	24.37
94,845	41.93
19,540	10.70
37,409	14.63
84,060	34.41
34,575	12.46
26,946	12.78
14,255	7.44
90,306	33.85
63,951	29.11
66,608	23.08
67,882	23.24

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
    - For a new job just arrived in the system, what is the predicted time on each machine A and B?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
    - For a new job just arrived in the system, what is the predicted time on each machine A and B?

– What is the print size of the new job?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?
  -
  - What is the criteria to choose the best? What is the cost per hour for each machine?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?
  - In how many days can the job be completed?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?
  - In how many days can the job be completed?

– How many hours a day does the print shop work?

Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?
  - In how many days the job can be completed?
  - How your answer to Q3 will change if the size of the new job increases or decreases?

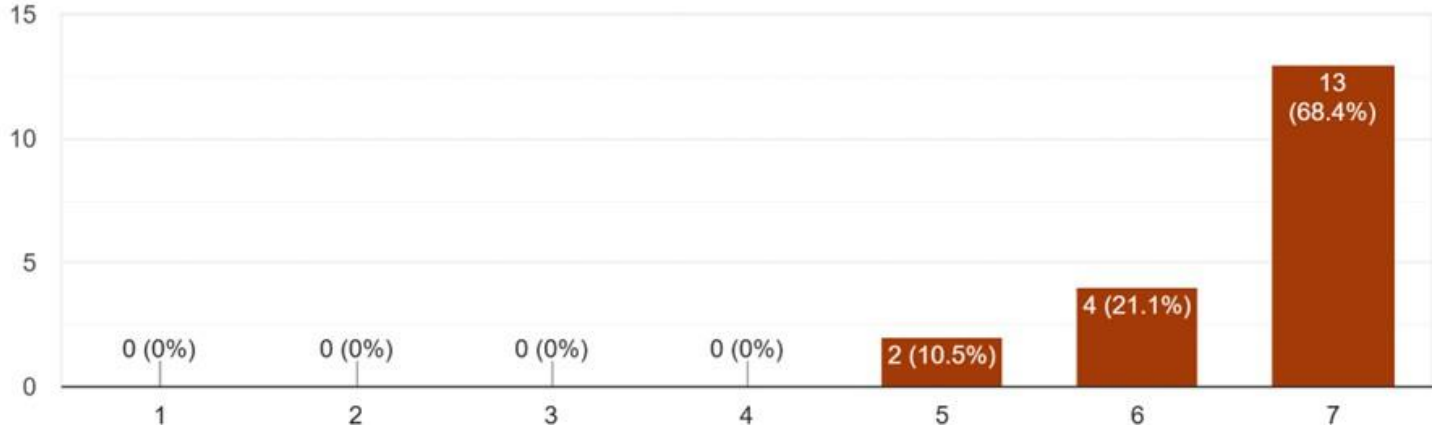
Implementation - Example

- Regression analysis: time to do a print job ~ print size (# of pages)
  - For a new job just arrived in the system, what is the predicted time on each machine A and B?
  - Which machine is the best to perform the new job?
  - In how many days the job can be completed?
  - How your answer to Q3 will change if the size of the new job increases or decreases?
    - How much increase or decrease?

Student feedback - Interacting with instructor

Identifying the additional information needed and asking the right questions was a valuable learning opportunity.

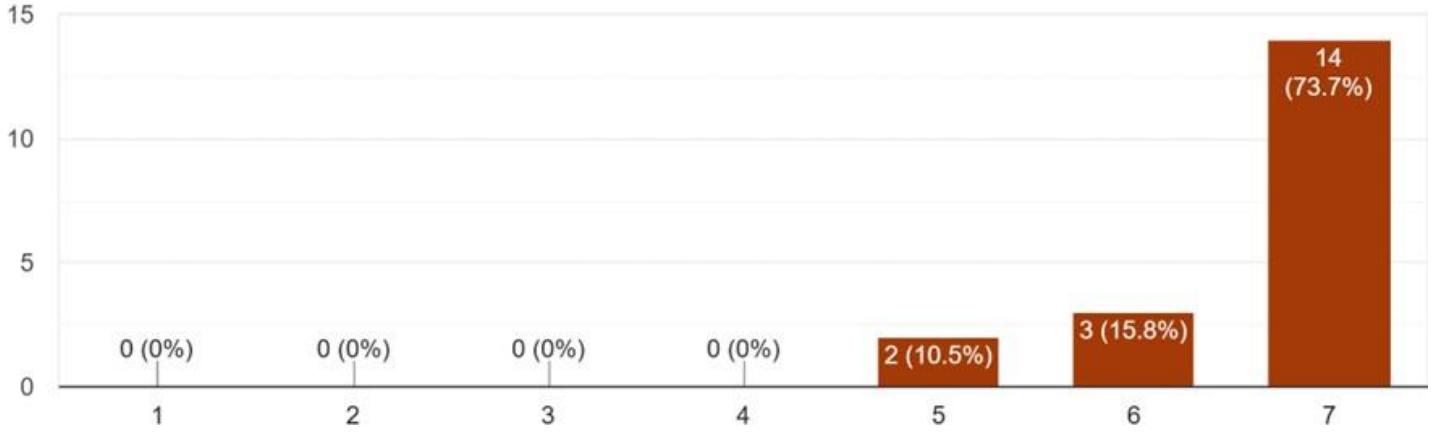
19 responses



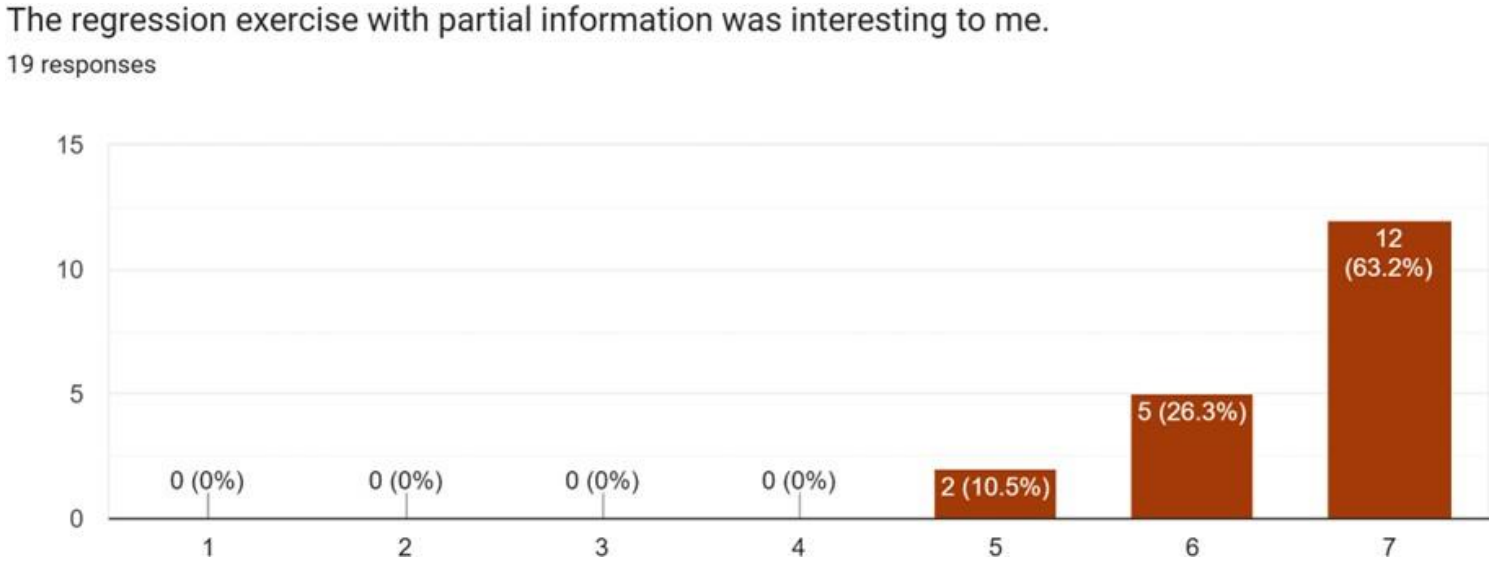
Student feedback - Critical thinking

This Partial Information Exercise demanded more critical thinking compared to a traditional business school case / exercise.

19 responses



Student feedback – Student engagement



Partial Information Exercise

- Tested on both online and in-person classes.
- Minimal effort with considerable improvement.
- Tested in assessments as well.

Thanks for listening!

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Thank you!

Vote - People's choice award

Showcase Session 2

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