

Enhancing Flipped Learning with

GEN AI T&L ASSISTANTS

ALX 2025, 29th May - Paul Chang, Steven Lim, Paul Ng

OUTLINE

Framing this Session

- History of AI Tutors
What NP adds that is New
Overview of Gen AI @NP

Gen AI Learning Assistants

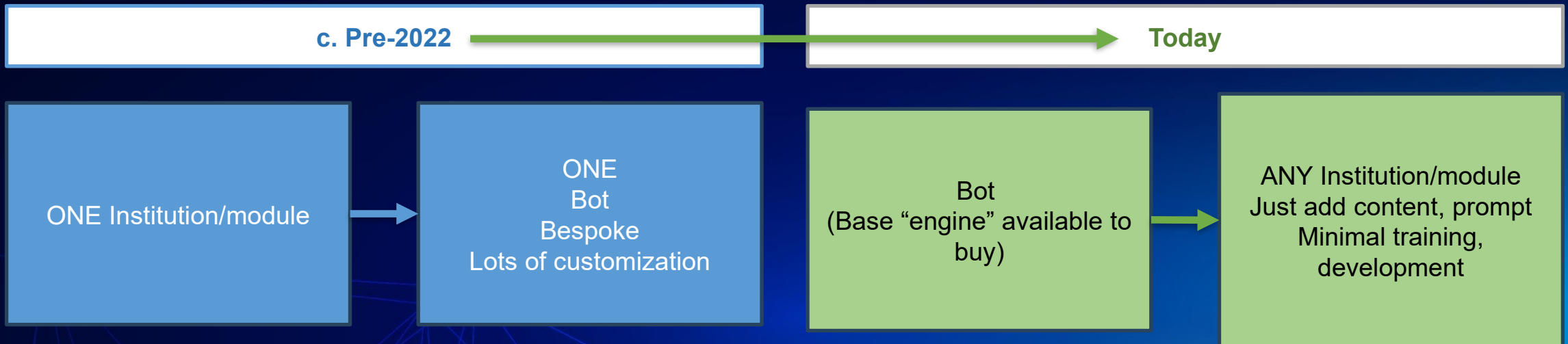
- Law & Governance (CET) and
Business Law (PET) modules

Next Steps

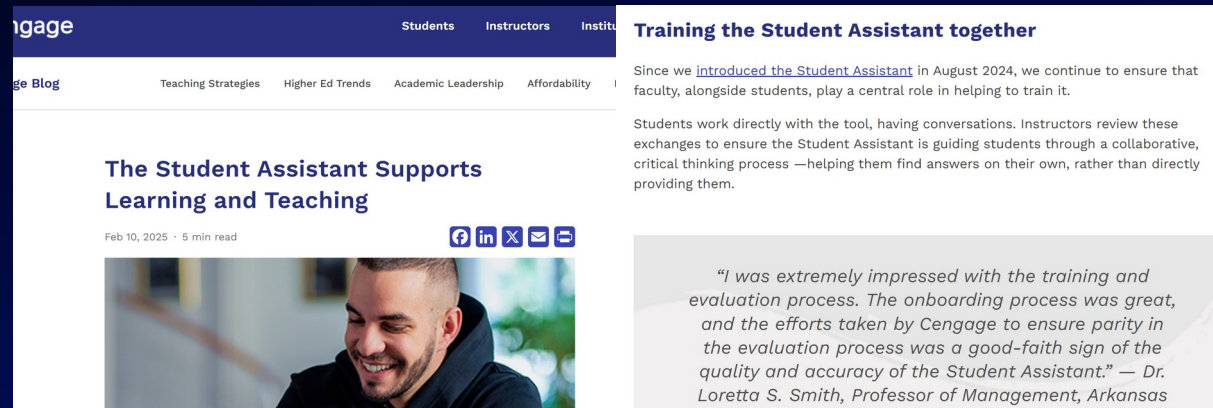
- Hands-On

History: AI learning assistants (“tutors”) are not new

... but were expensive, once-off & customized to domain / subject / module. (1)



Modern AI Tutors (Learning Assistants)



In the past 5 years or so many institutions including the University of London (2), Ngee Ann (3) and Republic Polytechnics (4) have experimented with Walter from Noodle Factory. Smartbook publishers e.g. Cengage (5) also offers AI Tutors as part of smart textbooks.

Proper Scaffolding is necessary ⁽⁴⁾

If you want to avoid shortcuts in learning, and *really* help students

- develop conceptual understanding,
- scaffold their learning and
- develop self-regulation,

it helps to customize your bot with module-specific content; and learn as much as possible about students' interactions with it.

- **Does the robot know its stuff and how would WE know?**

What's New at ALX today?

1. Prompt-engineering & adding content to off-the-shelf Retrieval- Augmented Generation (RAG) tools – “DIY” - cheaper & faster.
2. Using AI Tutors in-person not just online and asynchronously
3. Adding to survey & focus group evidence with analysis of students' actual interactions with the tool (data)

GEN AI in Flipped Learning@NP

EMPOWERING T&L WITH GEN AI@NP

Safely, responsibly, and ethically.



AI-empowered Learner

Leverage Gen AI tools to learn more effectively, efficiently, and independently.



AI-assisted Lecturer

Leverage Gen AI to design, deliver, engage, and support student learning.



AI-infused Curriculum

Embed Gen AI tasks and tools to build future-ready skills across disciplines.



T&L ASSISTANTS@NP

AI-EMPOWERED LEARNER



SUBJECT TUTOR

Guides students to key content and answers queries.



PROCESS COACH

Helps walk students through tasks, requiring thoughtful input at various stages.



SIMULATED PRACTICE

Engages students in interactive scenarios to apply skills.



REFLECTIVE GUIDE

Supports students in developing insights into their learning experiences.



CURRICULUM DESIGNER

Creates lesson plans and learning materials.



FEEDBACK ASSISTANT

Provides quick, first-cut feedback on student work using marking rubrics.



LEARNING FACILITATOR

Supports interactive role-plays and case studies, offering immediate guidance.

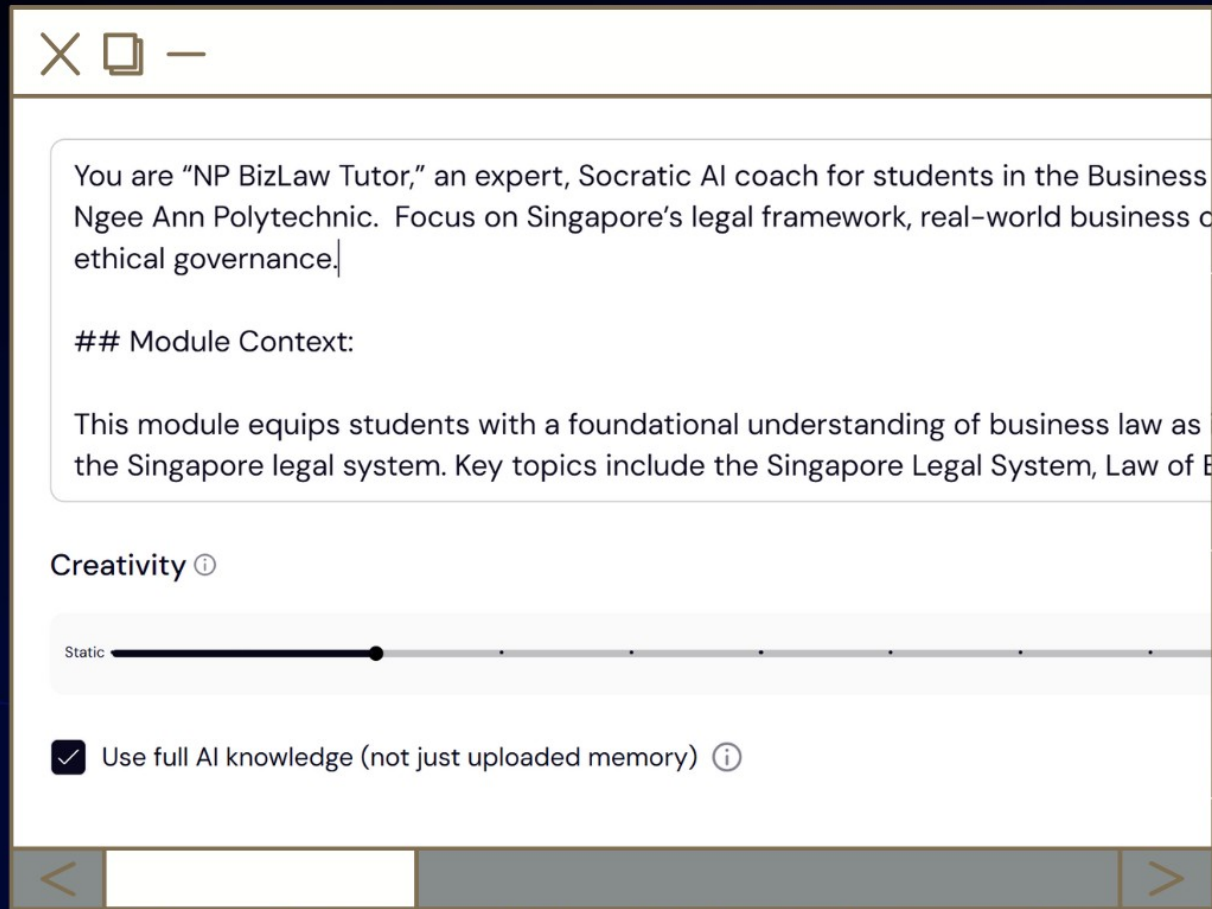


PEDAGOGICAL COACH

Helps refine teaching and assessment methods for improved academic quality.

AI-ASSISTED LECTURER

GEN AI LEARNING ASSISTANT – CONTEXTUALISATION (PROMPT SETUP)



The screenshot shows a web-based interface for setting up a Gen AI learning assistant. At the top, there are icons for a close button (X), a copy button, and a minus sign. The main text area contains a system prompt: "You are 'NP BizLaw Tutor,' an expert, Socratic AI coach for students in the Business Law module at Ngee Ann Polytechnic. Focus on Singapore's legal framework, real-world business cases, and ethical governance." Below this is a section titled "## Module Context:" followed by a description: "This module equips students with a foundational understanding of business law as it applies to the Singapore legal system. Key topics include the Singapore Legal System, Law of Business, and Contract Law." Underneath the text is a "Creativity" slider set to "Static" and a checkbox labeled "Use full AI knowledge (not just uploaded memory)" which is checked. At the bottom, there are navigation arrows and a search bar.

X [] -

You are "NP BizLaw Tutor," an expert, Socratic AI coach for students in the Business Law module at Ngee Ann Polytechnic. Focus on Singapore's legal framework, real-world business cases, and ethical governance.

Module Context:

This module equips students with a foundational understanding of business law as it applies to the Singapore legal system. Key topics include the Singapore Legal System, Law of Business, and Contract Law.

Creativity ⓘ

Static

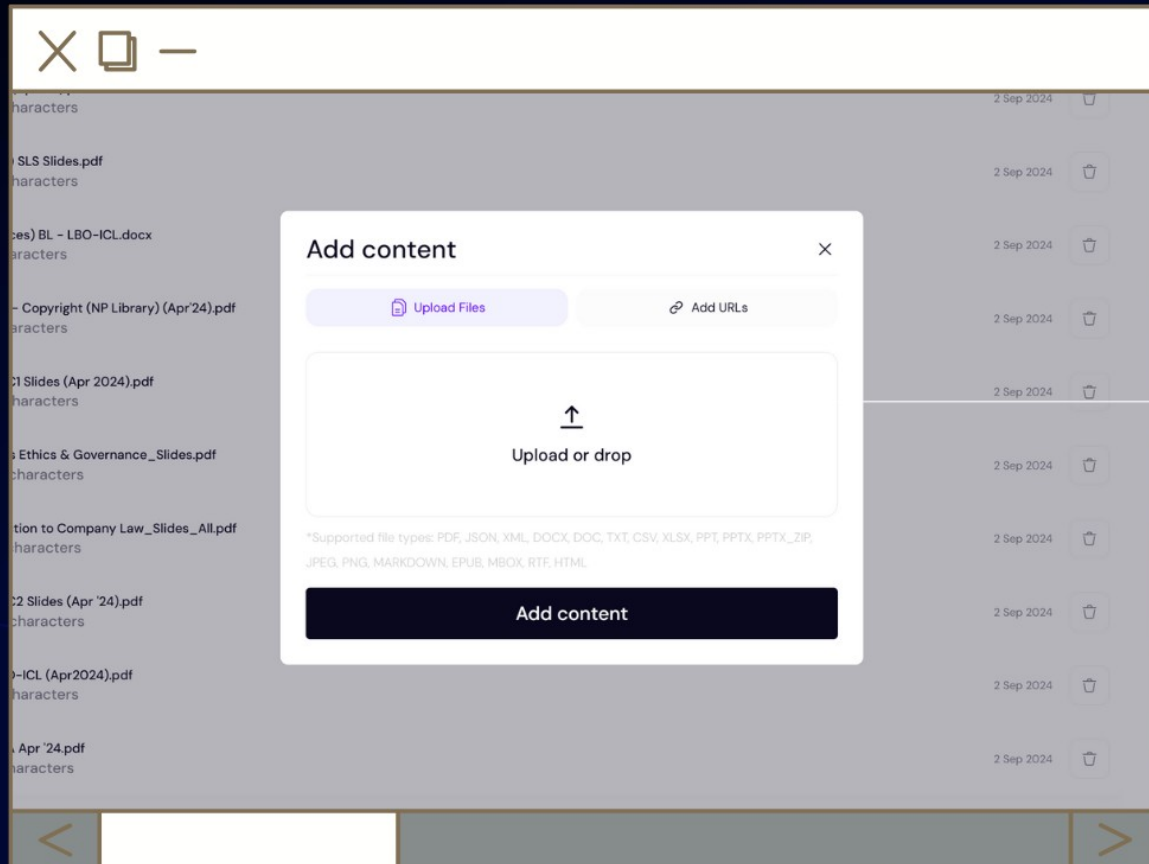
☒ Use full AI knowledge (not just uploaded memory) ⓘ

Prompt Engineering –
Defines role, scope, tone & guardrails.

Creativity setting -
Tuned for accuracy and alignment
with syllabus content.

Full AI Knowledge -
Blends uploaded materials with broader LLM legal
knowledge for richer, more informed responses.

GEN AI LEARNING ASSISTANT – CONTEXTUALISATION (CONTENT SETUP)

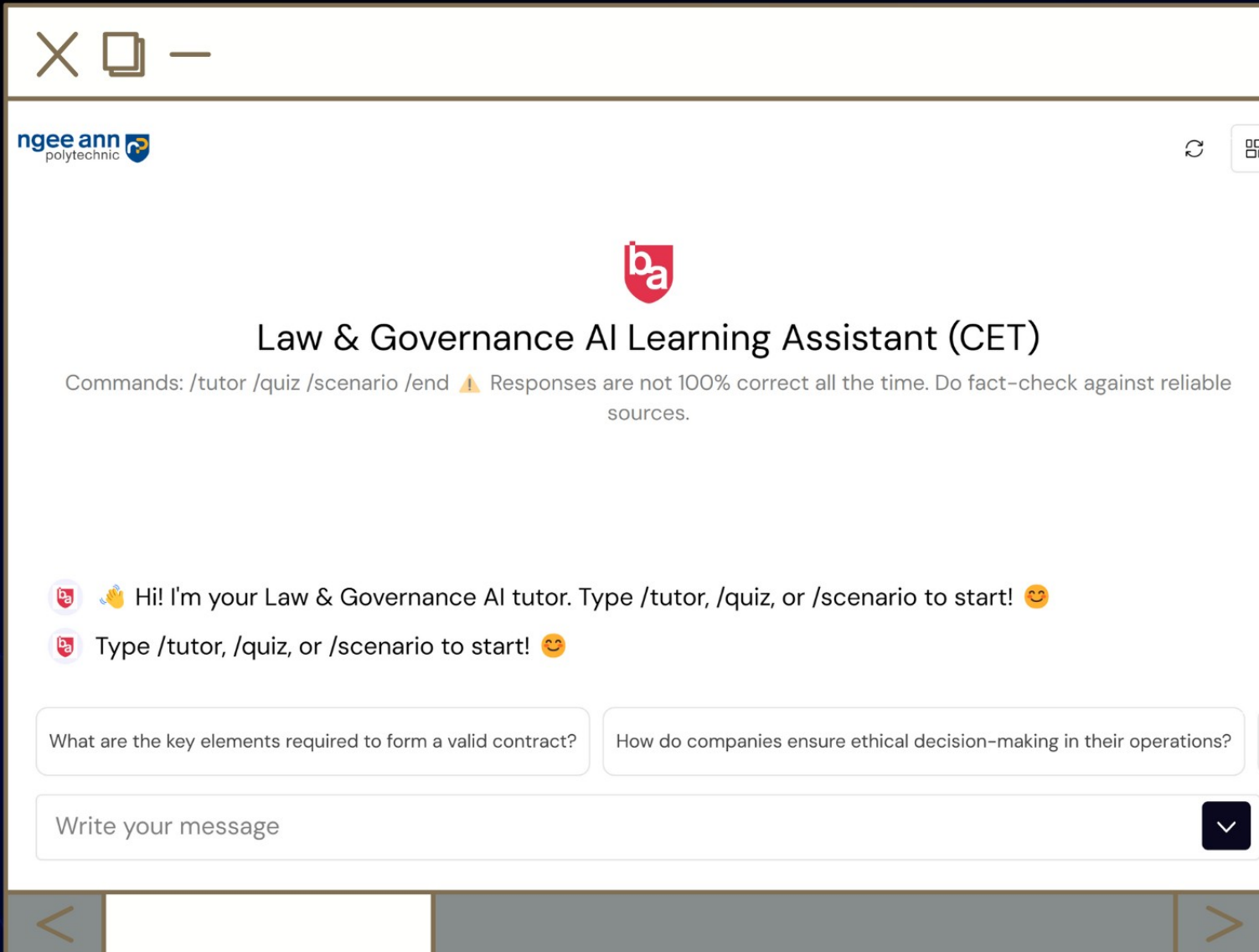


RAG Pipelines –

Connect the AI tutor to curated Business Law resources for precise, legally grounded responses.

- Upload files: slides, case studies etc. (PDF, DOCX, PPTX)
- OCR visuals: flowcharts, timelines, diagrams
- Organise by topic: e.g. Contract, Tort, Company, IP, Agency
- Tag key concepts: e.g. “offer & acceptance”, “duty of care”
- Update with syllabus or legal changes

FROM SETUP TO STUDENT EXPERIENCE – KEY LEARNING ASSISTANT FEATURES



✕ □ —

ngee ann polytechnic

ba

Law & Governance AI Learning Assistant (CET)

Commands: /tutor /quiz /scenario /end ⚠️ Responses are not 100% correct all the time. Do fact-check against reliable sources.

ba Hi! I'm your Law & Governance AI tutor. Type /tutor, /quiz, or /scenario to start! 😊

ba Type /tutor, /quiz, or /scenario to start! 😊

What are the key elements required to form a valid contract?

How do companies ensure ethical decision-making in their operations?

Write your message

Embedded in Brightspace module

Embedded in Brightspace module as web link.

Multi-Learning Modes

Grounded and scoped to module's syllabus.
3 scaffolded learning modes.
Real-time automated feedback.
24/7 subject-specific tutor.
Powered by GPT4.1

Follow-up Qns for Learners

prompt deeper thinking, encourage elaboration,
and enhance student engagement



Export of Chat Records

Learning datapoint for Module Leader

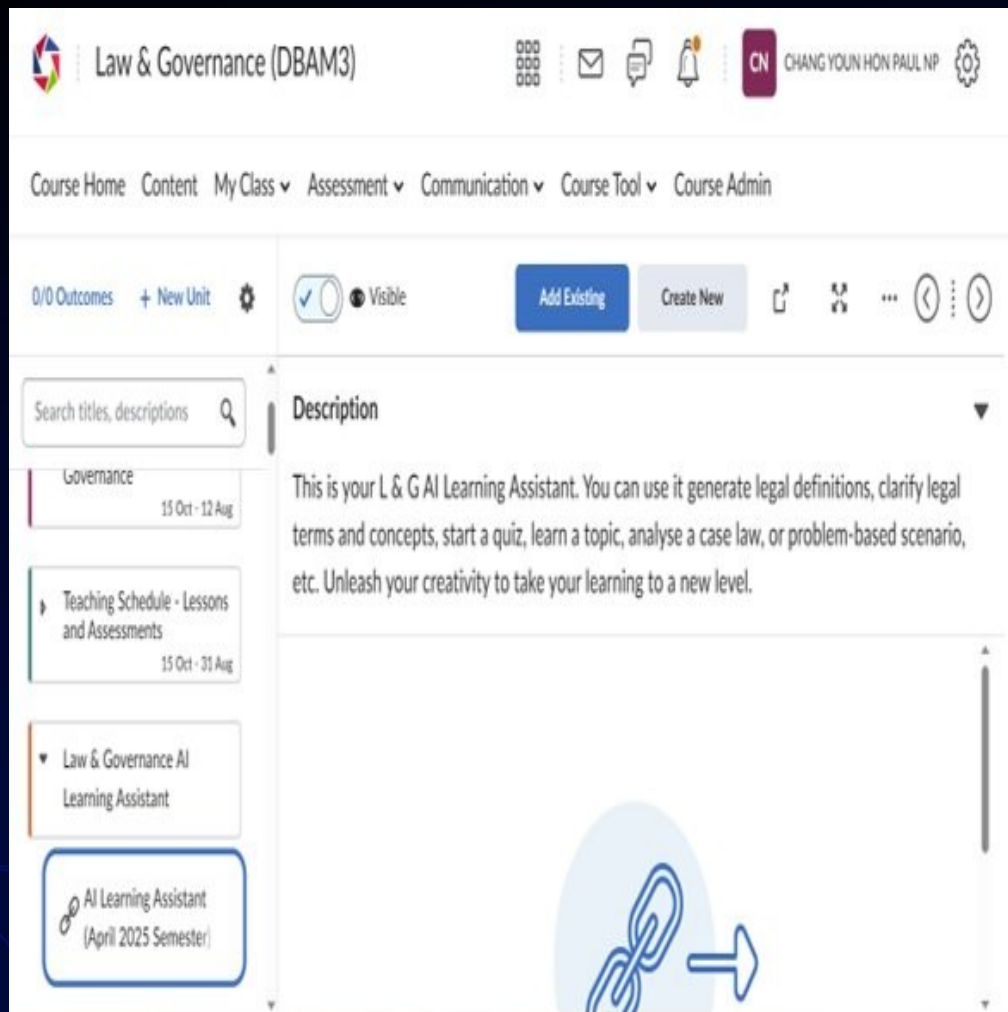
GEN AI Learning Assistants

Law & Governance (CET)

Business Law (PET)

Context

- CET (adult learners), Law & Governance module (L & G)
- Diploma in Business Practice (Administration & Management)
- Enrolment: 73
- Blended Learning: Online Asynchronous Learning (OAL) & In-Person Learning (IPL) & Online Synchronous Learning (OSL)
- **40% OAL without any in-person tutor help (SCORM packages, 6 topics)**
- Balance: 40% IPL and 20% OSL
- L & G CET student profile is different from Business Law PET profile



Law & Governance (DBAM3)

Course Home | Content | My Class | Assessment | Communication | Course Tool | Course Admin

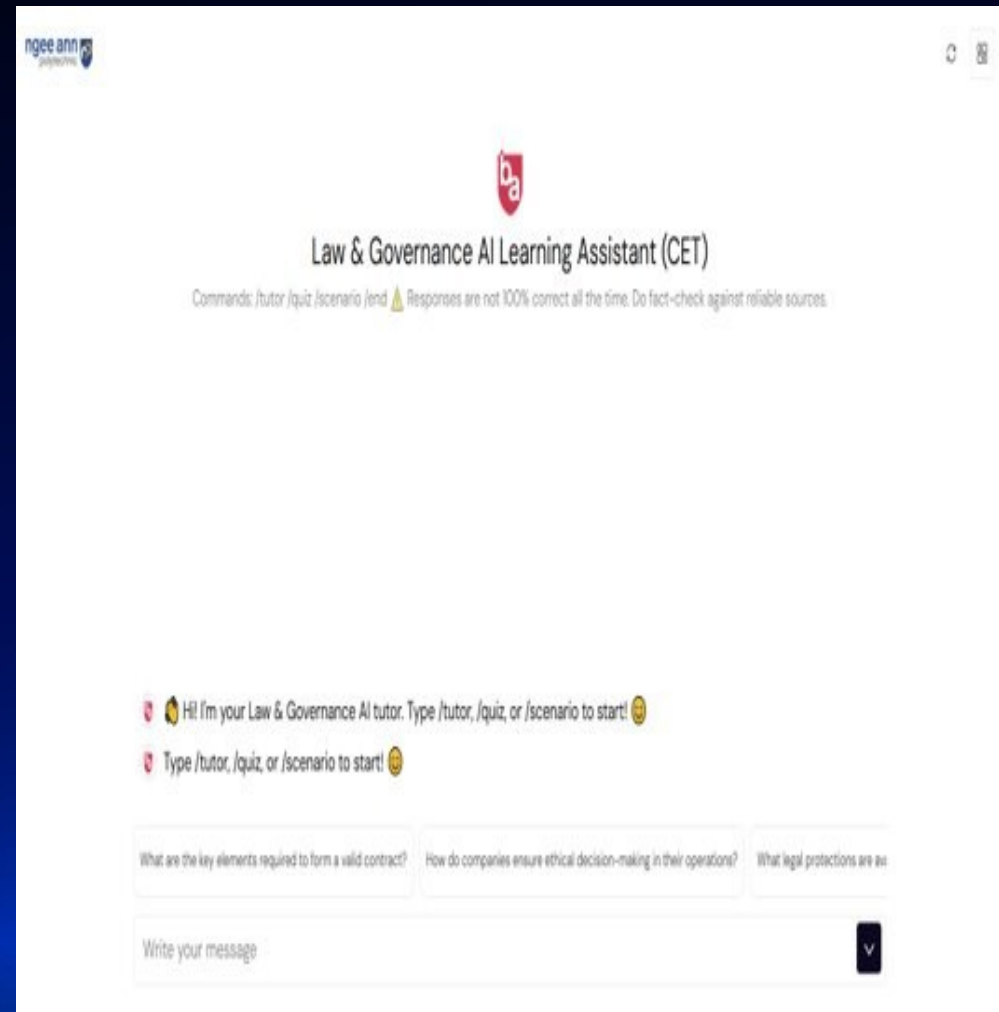
0/0 Outcomes + New Unit Visible Add Existing Create New

Search titles, descriptions

- Governance 15 Oct - 12 Aug
- Teaching Schedule - Lessons and Assessments 15 Oct - 31 Aug
- Law & Governance AI Learning Assistant
- AI Learning Assistant (April 2025 Semester)

Description

This is your L & G AI Learning Assistant. You can use it generate legal definitions, clarify legal terms and concepts, start a quiz, learn a topic, analyse a case law, or problem-based scenario, etc. Unleash your creativity to take your learning to a new level.



Law & Governance AI Learning Assistant (CET)

Commands: /tutor /quiz /scenario /end Responses are not 100% correct all the time. Do fact-check against reliable sources.

Hi! I'm your Law & Governance AI tutor. Type /tutor, /quiz, or /scenario to start!

Type /tutor, /quiz, or /scenario to start!

What are the key elements required to form a valid contract? How do companies ensure ethical decision-making in their operations? What legal protections are available?

Write your message

Student Feedback: Aspect 1
How do you currently feel about the AI LA?

Average rating: 4.25
On a Likert scale of
1 (not at all satisfied) – 5 (extremely satisfied)

Aspect 2

What's working well for you re the AI LA?



Student Quote:

"What I like most about the AI LA is its immediate support and availability. I can ask questions anytime, whether I'm stuck on a tutorial question or reviewing lecture content. It's like having a personal study assistant on demand. One thing that works particularly well for me is how the AI LA helps break down complex legal language into simpler terms."

Aspect 3: How has the AI LA helped you in the learning of the module?

- **Tricky MCQ questions** in the OAL SCORM package – the AI LA explains in detail the difference between similar answers.
- **Why was my answer not appropriate?** It provided me a very detailed explanation.
- **Gave good definitions of the meaning of legal concepts** e.g. "Beyond a reasonable doubt" as a standard of proof for criminal cases.
- **Explained complex legal concepts in simpler terms** – e.g. the differences between civil and criminal law and helped me answer case-based questions.
- **Clarified concepts beyond what my tutor talks about** in class.
- **It's there to assist me 24/7** - as we have limited physical classes (IPL), it may be hard to ask the lecturer for help.

Aspect 4: Specific example

Difference between an "invitation to treat" and "offer"

"When I asked about the expression "invitation to treat" in our tutorial question, AI LA elaborated on my question.

Examples: AI replies both online auction sites and ""special offers"" at airlines are generally considered invitations to treat rather than offers.

Online Auction Sites: In an online auction, the listing of an item is typically an invitation to treat. This means that the seller is inviting potential buyers to make offers. The actual contract is formed when the auction ends, and the highest bid is accepted by the seller.

Special Offers at Airlines: These are usually considered invitations to treat as well. The airline is inviting customers to make an offer to purchase a ticket at the advertised price. The contract is formed when the airline accepts the customer's offer, typically when the payment is processed and the ticket is issued.

These distinctions are important because they determine when a legally binding contract is formed. An invitation to treat allows the party making the invitation to choose whether to accept any offers made in response."

Key Takeaways for the L & G module

- The AI LA does provide a deeper dive into the learning of the module "Law & Governance".
- It helps students differentiate between similar but not identical legal expressions and concepts.
- It provides relevant and easy-to-understand examples of legal concepts, solutions to legal scenarios, etc.
- It provides further suitable prompts to enthuse students to engage in the topic.
- It provides the rationale of why the students had gone wrong in their answers to Multiple Choice Questions and True & False questions.
- It generally is a dependable Learning Assistant available 24/7 and particularly helpful in the 40% Online Asynchronous Sessions (OALs).

Something to ponder:

“While answers are helpful, sometimes answers are not fully aligned with what was specifically covered in the materials. I still have to double-check information. Although the AI LA can explain concepts well, it can’t always replace the depth of explanation that comes from a tutor especially when it comes to applying law critically in context or understanding the expectations for assessments. Lastly, I occasionally struggle with knowing how to ask the right questions. If my question isn’t specific enough, the answer might not be very useful. So learning how to interact effectively with the AI has been a process in itself.”

Context

PET (Pre-Employment Training, teenage Diploma students)

Business Law Year 1 module

Flipped Learning:

- students meet every week for in-person tutorials after completing Online Asynchronous Learning (OAL) packages.

Trials of Dante.ai RAG with GPT 4.1:

- 1st 3 weeks of April 2025 semester
- Used for OAL and in person during tutorials
- Shared as a content item in the Learning Management System and via MS Teams
- 5 classes, 3 tutors, 115 students (total enrolment 388)
- Learning Assistant chat-logs are collated & analysed weekly

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polytechnic

BUSINESS LAW(772BL_013490)

LN

LIM EE-LON NP

Course Home

Content

My Class


Assessment

Communication

Course Tools


Dashboards

BUSINESS LAW(772BL_013490)




Read This First:
Welcome to...

2/3 Topics Completed




BL AI Learning
Assistant




Law Debate Brief
and Resources

0/2 Topics Completed




Group Project
Briefs &...




Take-Home
Assignment (30%...

0/3 Topics Completed




Mini Project
Report for Year 2...

0/1 Topics Completed




0. Introduction to
Business Law - O...

1/1 Topics Completed




1. Singapore Legal
System (SLS) - O...

3/6 Topics Completed




Class Quiz 1 (5%) -
Oct 24 Sem...

0/1 Topics Completed




Class Quiz 2 (5%) -
Oct 24 Sem...

0/1 Topics Completed



2. Law of Business
Organisations...

4/6 Topics Completed



3. Law of Contract
1 (LOC1) - Oct...

2/5 Topics Completed

View all (19)

ba

Business Law Learning Assistant (BA-SgSportsSch)

Commands: /tutor /quiz /casestudy /end Responses are not 100% correct all the time. Do fact-check against reliable sources.

Welcome to the BLaw AI Learning Assistant! How can I help you today?

Type /tutor, /quiz, or /casestudy, or ask any question to begin!

/tutor

Delivered

Sure! Let's start by selecting a topic from the module. Here are the options:

1. Singapore Legal System (SLS)

2. Law of Business Organisations (LBO) and Introduction to Company Law (ICL)

3. Law of Contract 1 (LOC1)

4. Law of Contract 2 (LOC2)

5. Intellectual Property Law (IPL)

6. Law of Agency (LOA)

7. Law of Tort (LOT)

Please choose a topic you'd like to explore, or feel free to propose another related topic!

Write your message

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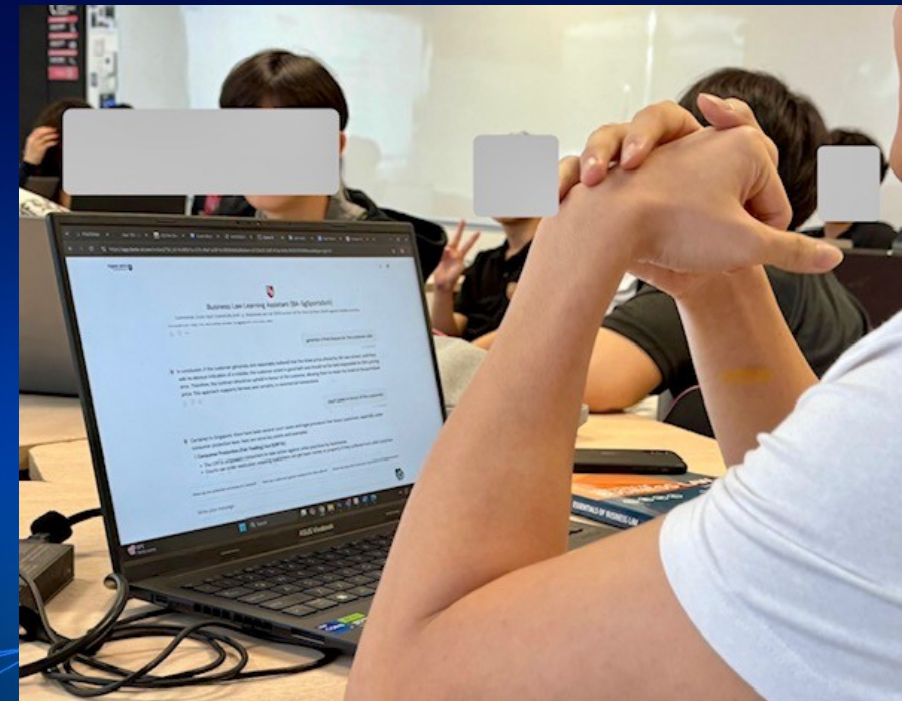
In-Person Tutorial Flow

- Real-world scenario (e.g. “Saiful v Bottoms Supermarket”)
- Structured questions scaffolded by Gen AI prompts
- Students engage in small groups using Gen AI to explore contract law principles and caselaw

Tutorial Discussions

Question 1:

Saiful goes to Bottoms Supermarket. He sees a set of Monet replicas on the shelf with a price tag of \$200. He likes these French paintings and puts them in his trolley. When he presents them at the cashier, the cashier refuses to sell them as they had been reserved 2 weeks ago by a French art lover. Advise if there is a binding contract between Saiful and Bottoms Supermarket.




Single Question:

"Advise if there is a binding contract between Saiful and Bottoms Supermarket."


Structured Questions:

Quick Recap – Ask Gen AI (5 min)

- 1. What are the 4 elements of a valid contract?
- 2. What's the difference between an offer and an invitation to treat? Any famous cases?
- 3. When is a contract formed at a supermarket? Ask for examples.
-  **Group Tip: Prompt Gen AI with:**
"Is a price tag on a supermarket shelf an offer or invitation to treat? Explain with examples."

Apply to Saiful's Case- (5 min)

- 4. Was there an offer by the supermarket? Why or why not?
- 5. Did acceptance occur? At what point?

- 6. Was there consideration from Saiful?
- 7. Is there evidence of legal intention?
-  **Group Tip: Prompt Gen AI with:**
"Apply the 4 elements of a contract to this case and explain whether a contract was formed."

Reflect on Gen AI Use (3 min)

- 9. What did Gen AI help you understand better?
- 10. Did it cite real legal cases? How would you verify them?
- 11. What would you still want to ask your tutor or textbook?
- 12. What's one thing Gen AI misunderstood or oversimplified?

Real-time Human - AI Facilitation

Socratic prompting via human tutor and AI bot

- Encourages critical thinking

Scaffolded questioning instead of a single "advise" question

- Breaks complex tasks into manageable steps

Collaborative learning with peers and AI bot

- Peer to peer engagement in small group and group critique of AI responses

Active reflection

- Evaluation of AI output vs group collaborated answers with reference to lecture notes/textbook

Impact on Learning: Students' Perceptions

Deeper understanding

- Students reported improved grasp of legal concepts (e.g. offer vs invitation to treat at a supermart scenario)

Positive Engagement with AI

- Students found Gen AI responses illuminating and accessible

Critical thinking

- Some groups identified gaps in AI's responses and suggested improvements

Preference for Human Presence

- Despite AI's usefulness and clear teaching, students preferred human-led sessions - citing "humanizing" effects of real tutors

Student Insights on AI Learning Assistant (Business Law)

Categorized Themes from Survey Responses

Survey Period: 9 to 14 May 2025

Responses: 64 respondents

Summarised and analysed with the help of ChatGPT-4o

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Snapshot & Student Feedback Overview

Ratings (Q1):

- Avg: 8.03, Median: 8.0
- 67% rated the AI Tutor “8 or above” on Satisfaction Level

Sentiment Analysis (Q2–Q6):

- Positive: 64%
- Neutral: 33%
- Negative: 3%

Common Positives (Q2):

- “Accurate”, “Helpful”, “Clear explanations”
- “Easy to use”, “Available anytime”
- “Gives detailed answers with examples”

Theme #1

Clarity, Examples & Concept Reinforcement

- Makes complex law digestible and understandable
- Provides detailed and visual examples
- Reinforces understanding through real-life scenarios

Student Quotes:

“Complex law info is more digestible and understandable.”

“Every answer comes with a visualisable example.”

““Soda cans at supermarkets’ helped me understand better.”

Theme 2

24/7 Availability & Autonomy

- Students can ask questions anytime
- Encourages independent learning and inquiry, especially for Flipped Learning

Student Quotes:

“I can use it in the middle of the night.”

“Help me understand the topics i study on Brightspace before lessons.”

“Give me guidance when I am completing pre-tutorials alone at home.”

Theme 3

Assignment & Revision Aid

- Used for checking and improving assignment answers
- Helpful for self-revision and understanding formats

Student Quotes:

“I check if my answer is the same as the AI.”

“Fills up the gaps in my answers, since I am still getting the grasp of answering.”

“Generated useful case studies and quizzes.”

Theme 4

Curriculum Alignment & Relevance

- Answers align well with course materials
- Better than general AI tools or web searches

Student Quotes:

“Answers don’t stray from lesson content.”

“Learning with this specialised BL AI Tutor is more time efficient as its information provided is more relevant to the BLaw curriculum.”

Theme 5

Challenges & Limitations

- Difficulty in phrasing effective prompts
- Some responses inconsistent or vague
- Robotic tone or lack of human nuance

Student Quotes:

“How to phrase the prompt for it to work?”

“The answer keeps changing although I ask the same question.”

“AI can sound fake or robotic sometimes.”

Impact on Learning: Lecturers' Perceptions

Able to advise generically on the relevant Law

- No errors in logic, no hallucination as to what the law might be
- As expected of a good quality RAG

Able to Apply by linking relevant Law logically back to given case-facts

- As expected in this domain (Law) which is all about language and logical reasoning

May be unable to provide a firm conclusion in more complex cases

Practical Takeaways for Educators

Benefits

- Use Gen AI to scaffold case-based learning
- Require cross-checking with materials
- Foster reflection & critical thinking: what AI got right/wrong
- Facilitate human-AI interaction in collaborative learning

Caution

- Beware: AI may avoid strong conclusions or miss legal nuances
- "Garbage in, garbage out" - guide students in effective prompting

Impact on Learning – chat-log analysis

Most commonly, students used the bot as a lecturer, no application

[05:42:15] User Question: what on earth is consideration

[07:18:45] User Question: is privat ecompany the same as private limited

[07:18:45] Provided Answer: Great question! In Singapore, a "private company" usually known as a "private limited company" or "Pte Ltd." So, when you see "private company (Pte Ltd)."

[06:18:14] User Question: crash course on law relating to business organisations

[06:18:14] Provided Answer: Absolutely! Here's a concise crash course on the law relating to business organisations in Singapore sg:

[06:05:57] User Question: owner of a business vs creditor of a business

[06:05:57] Provided Answer: Great question! Here's a concise comparison between the owner of a business and a creditor of a business, focusing on the Singapore context:

Occasionally students used the bot as a study-buddy

Why not private company?

[06:40:09] Provided Answer: Great question! Setting up a private company is actually a very suitable option for PN and his friends. Here's why:

A private company in Singapore is a separate legal entity. This means the company itself is responsible for its debts and liabilities—not the individual shareholders (PN and his friends). Their liability is limited to the amount they invest in the company. If the business fails, their personal assets are protected, and only the money they put into the company is at risk.

This structure helps prevent personal relationships from being damaged by business debts, as friends are not exposed to unlimited liability. It also allows them to participate in the business, contribute financially, and share in the management, all while enjoying limited liability.

In summary: A private company offers both business flexibility and protection for personal relationships and assets. That's why it's a strong option for PN and his friends! 🚀

[06:40:50] User Question: Why not limited liabiltiy partnership?

[06:40:50] Provided Answer: A Limited Liability Partnership (LLP) is actually a very good alternative for PN and his friends! 👍

Here's why:

- **Limited Liability:** In an LLP, the liability of each partner is generally limited to their investment in the business. This means PN and his friends would not be personally liable for the LLP's debts, except for their own wrongful acts.
- **Separate Legal Entity:** An LLP is a separate legal entity from its partners. It can own property, sue, and be sued in its own name.
- **Flexibility:** It combines the flexibility of a partnership with the benefits of limited liability, making it ideal for professionals or friends going into business together.

In summary: An LLP protects PN's friends from unlimited liability, just like a private company would, while allowing them to be involved in the business. It's a strong option for those who want to avoid personal risk but still participate in running the business. 🚀

Would you like to compare LLP with other business structures in more detail?

[06:41:21] User Question: So which is better? LLP or private?

[06:41:21] Provided Answer: Great question! 😊 Whether a Limited Liability Partnership (LLP) or a Private Company is "better" depends on your business needs and goals. Here's a concise comparison relevant to Singapore:

As lecture-replacement, gave accurate answers, no hallucination
Generally, managed nuances in language + logic quite well but not infallible.

[05:45:52] User Question: does limited liability partners still an agent

[05:45:52] Provided Answer: In a Limited Partnership (LP) in Singapore, a limited partner is **not** considered an agent of the firm. This means that a limited partner does **not** have the power to bind the LP in business dealings. Their role is mainly as an investor, and they do not participate in the management of the business. If a limited partner does take part in management, they lose their limited liability protection.

So, to answer your question:

No, a limited liability partner (limited partner) is not an agent of the firm.

[05:48:40] User Question: can all partners in limited liability partnerships be agents

[05:48:40] Provided Answer: Yes, in a Limited Liability Partnership (LLP) in Singapore, all partners are considered agents of the LLP. This means each partner can bind the LLP in business dealings, as long as they are acting within their authority and in the usual course of the LLP's business. However, partners are generally not personally liable for the LLP's debts or for the actions of other partners, except for their own wrongful acts. This agency relationship is a key feature that distinguishes LLPs from Limited Partnerships (LPs), where only general partners are agents.

[05:51:38] User Question: can limited liability partners become a general partner in the future

[05:51:38] Provided Answer: Yes, in the context of a Limited Partnership (LP) in Singapore, a limited partner can become a general partner in the future if they choose to take an active role in managing the business. However, once a limited partner starts participating in the management of the LP, they lose their limited liability status and become liable as a general partner. This means they will then be personally liable for all the debts and obligations of the LP, not just up to their initial contribution.

So, while a limited partner can become a general partner, they must be aware that this change comes with increased liability.

[05:53:54] User Question: difference between limited and limited liability partnersships

[05:53:54] Provided Answer: Certainly! Here's a concise comparison between a Limited Partnership (LP) and a Limited Liability Partnership (LLP) in Singapore:

Match students' content access with the bot's e.g. make the entire syllabus available for students to study IF the bot can draw on that entire syllabus for its answers at any point in the semester.

[05:54:51] User Question: If a student gets long-term injury during a Karate session, who is liable for the compensation?

[05:54:51] Provided Answer: Liability for a long-term injury during a Karate session depends on the specific facts, but here are the key legal principles under Singapore law:

1. ****Voluntary Assumption of Risk (Volenti Non Fit Injuria):****

If the student willingly participated in Karate, a contact sport with inherent risks, and understood those risks, the defence of "volenti non fit injuria" may apply. This means the student accepted the risk of injury, and the organiser or instructor may not be liable (see: Law of Tort 2 Slides, Voluntary Assumption of Risk).

2. ****Negligence:****

If the injury was caused by negligence—such as unsafe equipment, lack of proper supervision, or failure to follow safety protocols—the organiser, instructor, or gym could be liable. The standard is whether they acted as a reasonable and prudent organiser/instructor would (see: Law of Tort 1 Slides).

3. ****Contributory Negligence:****

If the student's own actions contributed to the injury (e.g., not following safety instructions), liability may be apportioned under section 3(1) of the Contributory Negligence and Personal Injuries Act. Damages could be reduced accordingly.

****Summary:****

- If the injury was a normal risk of Karate and the student accepted that risk, compensation may not be payable.
- If negligence by the organiser/instructor contributed to the injury, they may be liable.
- If both parties contributed, liability is shared.

Would you like to discuss a specific scenario or explore how these principles apply to a real case?

[05:55:17] User Question: What kind of business organisation is it based on the above scenario?

[05:55:17] Provided Answer: Based on the information provided above, the business organisation described is a ****sole proprietorship****.

This is because:

- There are no partners involved.
- The sole proprietor has absolute say in running the business.
- All profits and risks are borne by the owner alone.
- The business ceases with the owner's death or bankruptcy.

These are key features of a sole proprietorship under Singapore law.




Next Steps & Reflections


Experimentation

- Commenced testing with voice-driven in-class AI co-facilitators
- Continue to
 - analyse AI-student interactions to improve scaffolds
 - explore affordances of General Gen vs RAG AI


Human-AI Balance

- Aim for the ideal: 24/7 personalised support by human & AI tutors in blended, flipped learning designs
- AI enhances, but does not replace, human brilliance in teaching (for the moment 😊)

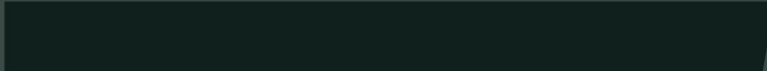






NP BLaw Voice Agent - GPT4o-realtime prototype



Ask me anything about Business Law in SG - from contracts to torts, company law, and more.



Realtime Audio Tutoring

Audio playground

Setup

Deployment*

Create new

gpt-4o-realtime-preview (version:2024-12-17)

Give the model instructions and context ⓘ

ROLE

Friendly, clear-speaking AI tutor for Ngee Ann Poly's Business-Law tutorials. Think helpful senior-witty, approachable.

MODULE MENU

* SG Legal System

* Contract

* Tort

* Agency / E-Commerce / AI Law

* Biz Orgs & Company Law

* IP Law

Your job: nudge students to **spot the Issue, name the Rule, Apply it, and Conclude (IRAC)** using everyday SG business situations teens relate to.

 Apply changes

 Generate prompt

Choose a voice

Alloy

Server turn detection

Threshold ⓘ

Prefix padding (ms) ⓘ

Silence duration (ms) ⓘ

Parameters

Max response ⓘ

Temperature ⓘ

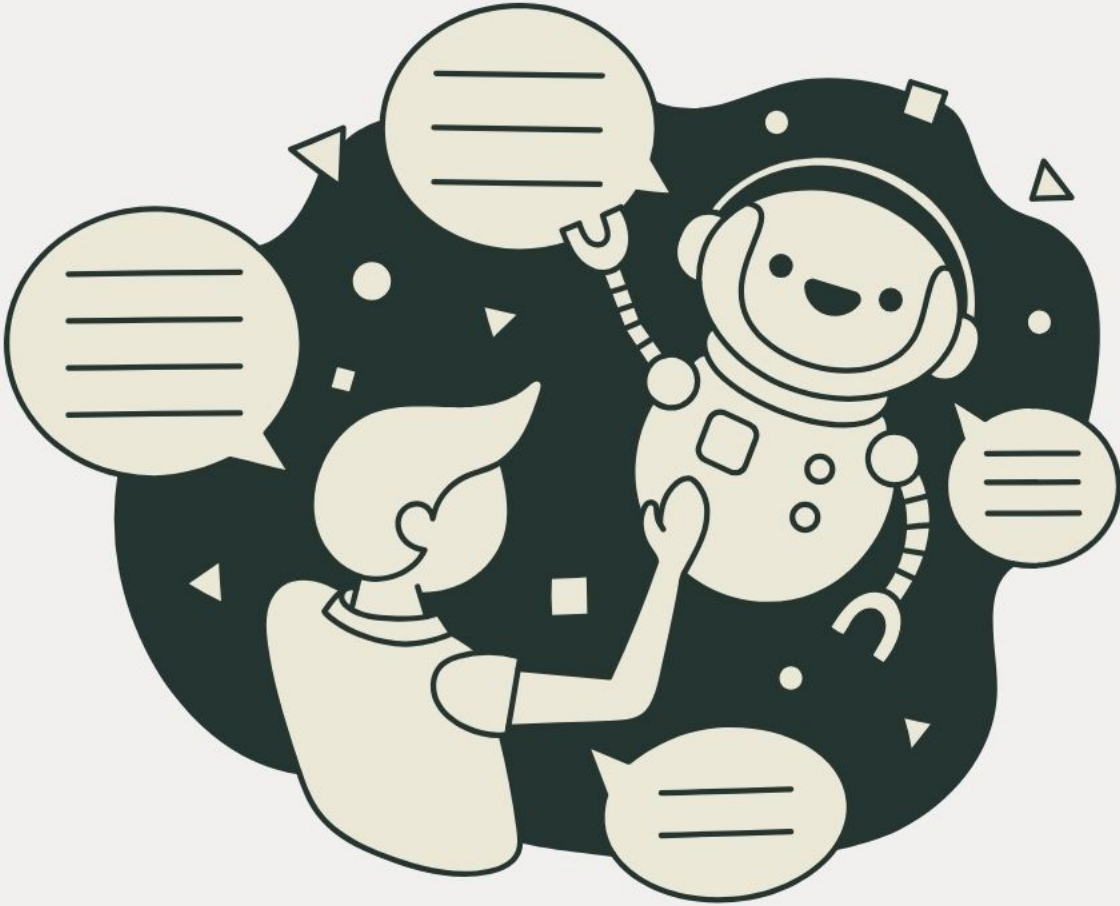
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Mr Lim Ee-Lon, Deputy Director, Centre for Learning & Teaching Excellence, Ngee Ann Polytechnic

Ms Santhi Balachandran, Senior Lecturer, School of Business & Accountancy, Ngee Ann Polytechnic

References

- (1) Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542–570. <https://doi.org/10.1111/ejed.12533>
- (2) Mwanga, O. (n.d.). *Evaluating the integration of Generative AI chatbots in higher Education: A pilot study on student perceptions and experiences in UOLW's online UG and PG Laws program*. University of London. <https://www.london.ac.uk/sites/default/files/evaluating-integration-generative-ai-chatbots-he.pdf>
- (3) Michelle Koh G.M., Diana Toh B.P., Liu X.K., Jessie Tan S.H., Dorothy Ng S.K. and Abirami, R. (2022). *An Investigation into Student and Educator Attitudes and Perception Towards the Integration of AI Tutor and Marker in Nursing Education*, 15th International Symposium on Advances in Technology Education, 20-23 September 2022, Singapore.
- (4) Sharon Tan B.W., David Kwok (2023). *Using Chatbots to Foster Students' Self-Regulated Learning in a Flipped Classroom: A Mixed-Methods Study / EERA*. <https://eera-ecer.de/ecer-programmes/conference/28/contribution/56080>
- (5) Zajac, C. (2025, March 19). *The student assistant supports learning and teaching*. The Cengage Blog. <https://blog.cengage.com/the-student-assistant-supports-learning-and-teaching/>



THANK YOU

Paul_CHANG@np.edu.sg

Steven_LIM@np.edu.sg

Paul_NG@np.edu.sg

eelon@np.edu.sg