

Customising XIPU AI Tutor for Self-Directed Learning in High Cognitive Load Modules

International Business School Suzhou

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1. Background

ACC307 Advanced Taxation is a high cognitive load module due to its extensive content, specialised terminology, and complex regulatory framework. The course aims to equip students with an in-depth understanding of UK tax regulations and their real-world applications. However, many students—particularly non-native English speakers—find the subject challenging in terms of comprehension, pacing, and sustained engagement. Traditional teaching approaches offer limited opportunities for personalised support beyond class time, and students often lack timely feedback and emotional encouragement during independent study. To reduce cognitive load and support self-directed learning, a customised XIPU AI Tutor was introduced into ACC307.

2. Solutions

This case integrated a customised XIPU AI Tutor into ACC307 via Learning Mall. Key strategies included:

1. **Module-level AI Tutor integration:** A XIPU AI Chat Block was embedded directly into the ACC307 module page.
2. **Customised Completion Prompt configuration:** Detailed prompts were designed to reflect the scope and depth of advanced UK taxation, enabling more specialised and accurate responses.
3. **Step-by-step support for complex concepts:** Students received structured explanations that reduced cognitive overload.
4. **Bilingual and emotionally supportive responses:** The AI Tutor provided professional support in both English and Chinese while offering encouragement.
5. **Socratic dialogue and case-based learning:** Interactive questioning and real-world tax cases promoted deeper understanding and critical thinking.

3. Outcomes and Benefits

Survey results indicated strong engagement with the AI Tutor: approximately 70% of students used it, and 61% strongly agreed that it provided more professional and specialised answers than generic AI tools. Students highlighted its effectiveness in understanding complex taxation concepts and supporting independent study. The 24/7 bilingual and emotionally supportive features were particularly valued. However, a minority of students reported neutral satisfaction, indicating scope for further refinement and guidance.

4. Replicability and Promotion Value

This case is highly replicable across high cognitive load modules in accounting, finance, law, and related disciplines. Module-level AI Tutor customisation provides scalable, personalised learning support without disrupting existing curricula.

5. Next Steps

Future plans include enhancing personalisation, improving student onboarding, and expanding the AI Tutor to other modules, alongside data-informed evaluation of long-term learning outcomes.