

Inquiry-based learning

Inquiry-based learning (IBL) encourages students to explore material, ask questions, and share ideas in small groups with guided learning. It uses a constructivist approach, with the goal of having students make meaning, guided by the Course Coordinators.

Heick identified [four phases of Inquiry-Based Learning](https://www.teachthought.com/pedagogy-posts/phases-inquiry-learning):

Inquiry Phase	Instructional Focus
Interacting	Curiosity, exposure, resource interaction
Clarifying	Sense-making, organising ideas, feedback
Questioning	Framing questions, identifying gaps
Designing	Application, revision, extension

(Retrieved 09/01/26 from <https://www.teachthought.com/pedagogy-posts/phases-inquiry-learning>)

The phases of inquiry describe shifts in student thinking and corresponding instructional emphasis. They are not fixed steps and may recur or overlap as understanding develops.

The following inquiry-based learning example focuses on the process of research commercialisation, generally. Edit for your context.

Description	This lesson uses an inquiry-based learning approach to immerse students in the process of exploring how research can be commercialised. Instead of being presented with solutions, students investigate guiding questions, gather evidence, and construct their own understanding of the pathways, challenges, and opportunities involved in moving research from lab to market.
Learning outcomes	By the end of the lesson, students will be able to: • Formulate and refine inquiry questions about research commercialisation. • Investigate multiple sources of evidence (academic, industry, policy) to answer their questions. • Critically evaluate commercialisation strategies and their implications. • Synthesise findings into coherent arguments and recommendations. • Reflect on the role of inquiry in deepening understanding of complex innovation processes.

How it works	1. Inquiry Question Framing (15 minutes): ○ Instructor introduces the broad theme: <i>“How can universities effectively commercialise research outputs?”</i> ○ Students brainstorm sub-questions (e.g., “What role does intellectual property play?” “How do funding models influence success?” “What ethical issues arise?”). 2. Investigation Phase (40 minutes): ○ Students work in groups to research their chosen inquiry question using provided materials and external sources. ○ They identify gaps in knowledge and refine their inquiry as they go. 3. Synthesis and Sharing (25 minutes): ○ Groups prepare a short presentation summarising their findings, highlighting evidence, reasoning, and unanswered questions. ○ Presentations are shared with the class, followed by peer discussion. 4. Reflection (10 minutes): ○ Individually, students write a brief reflection on how inquiry helped them understand the complexities of research commercialisation and what further questions they would pursue.
Resources required	• Background materials on research commercialisation (case studies, policy documents, industry reports). • Access to academic databases and industry publications. • Worksheets for inquiry question development and evidence mapping. • Collaboration tools (whiteboards, shared documents, online platforms).
AI considerations	• Students can use AI tools to generate alternative inquiry questions and then critically evaluate which are most relevant. • AI can assist in organising evidence (e.g., summarising articles, clustering themes), but students must assess accuracy and credibility.

	• AI can simulate stakeholder viewpoints (e.g., investor, policymaker, researcher), which students critique for realism and applicability. • Students should treat AI outputs as hypotheses or prompts for deeper inquiry, not definitive answers. • Reflection activities should include consideration of how AI shaped their inquiry process, ensuring students remain the primary drivers of analysis and critical thinking.
Assessment	• Formative: Observation of group inquiry processes, with feedback on question framing and evidence evaluation. • Summative: ◦ Group presentation of inquiry findings, assessed on clarity, depth of investigation, and critical reasoning. ◦ Individual reflection essay evaluating their inquiry process, including how AI tools were used to support critical thinking. • Optional peer assessment of group contributions to encourage accountability and collaboration.