Prompts: AI for Differentiation and Metacognition

Understanding your students faster

Analyze Student Information using AI (Claude):
"I'm teaching [course name]. Here are responses from my students about their prior experience with [topic]. Analyze these responses and identify: 1) Range of prior knowledge, 2) Common misconceptions, 3) Students who need foundational support, 4) Students ready for acceleration."
Guideline: Redact all student information first. Replace names with #s.

Example prompt:
I'm teaching Qualitative Methods 1 for a doctoral program. Here are responses from my students about their prior experience with research and providing some context about their current professional and personal lives. Analyze these responses and identify: 1) Range of prior knowledge, 2) Common misconceptions, 3) Students who need foundational support, 4) Students ready for acceleration.

- What is your current relationship to research? What courses have you taken already? How did you feel about them? (honesty requested)
- Have you already started thinking about a research project or research direction for your dissertation? If so, what are you thinking?
- What are you looking forward to in this class? What do you want to "get" from this class?
- What can I (as your instructor) do to support you in this class?
- Is there anything I need to know about your life right now that impacts your ability to focus on this course?

Assessing student comprehension level

Quick Text Analysis: "Analyze this writing sample for reading comprehension level and suggest appropriate text complexity for this student: [paste student writing]"
Result: Immediate insight into who needs simplified readings vs. who can handle primary sources.
Guideline: Ask permission and explain intent. Redact student information.

Differentiation for comprehension

"Review this short article excerpt and rewrite the content to match an 8th-grade reading level without losing key ideas."
“Rephrase this passage using plain academic English. Avoid jargon, reduce sentence length, and use more accessible vocabulary while preserving the meaning.”
“Create a side-by-side version of this paragraph: one with the original text and one with a simplified explanation that a student new to the field could use to understand it better."

Result: Simplifies complex texts while preserving core concepts — essential for supporting multilingual learners or students who struggle with comprehension.
Example: Student Centered Teaching Models

NOTE: We can teach students to do this for themselves when they find themselves struggling to comprehend course material.

"Simplify this explanation for students whose first language isn't English, maintaining academic rigor: [paste complex text]"
"Simplify this paragraph for Multilingual Learners at an intermediate proficiency level. Use shorter sentences, avoid idioms, and replace complex vocabulary with more common alternatives."
"Rewrite this academic text to support comprehension for multilingual students. Keep the main ideas but reduce jargon and clarify any culturally specific references."
"Create vocabulary scaffolds for key terms in this lesson: [list terms]"

Result: Accessible content that doesn't water down learning objectives.

"Use a sports metaphor to explain this economic principle so that students with a strong interest in athletics can connect with the concept."
"Explain this scientific process using a music-based analogy for students with a background in performing arts."
"Reframe this complex theory using a metaphor drawn from gaming or game design to support engagement among students interested in digital media."

Result: Relevant, meaningful instruction that connects rigorous content
to students' lived experiences and cultural knowledge.
"Explain {concept} in three different ways"
Physics example: mathematical approach, visual/analogical approach, historical approach
Literature example: thematic analysis, historical context, personal connection prompts
Economics example: graph-based explanation, real-world case study, simplified scenario
Biology example: cellular/molecular explanation, organism-level or ecological context, societal or health relevance

"I need to explain [specific concept from your field] to students with varying backgrounds. Create…

- A visual explanation (diagram, chart, or spatial metaphor)
- An analogy using familiar concepts (e.g., daily life, pop culture, work experiences)
- A step-by-step logical breakdown (sequenced explanation with clear transitions)
- A real-world application example (showing how it works in practice)

- A narrative or story-based example (for students who learn through storytelling)
- A movement-based or embodied metaphor (for kinesthetic learners)”

Result: Inclusive, multimodal instruction that improves comprehension and retention.

Real Time Responsiveness

"My students are struggling with [specific concept]. Generate: 1) Three different analogies, 2) A common misconception check, 3) A quick formative assessment question, 4) A simplified explanation."

Result: Responsive teaching that feels planned

"This assignment assumes students know [prerequisite]. Half my class doesn't. Modify this assignment to include scaffolding for students missing this background: [paste assignment]"

Result: Inclusive assignments without starting from scratch.

Flexible Assessment

"I need to assess whether students understand [specific learning objective]. Create three different low-stakes assessment options that measure the same outcome (see below). All should take 10-15 minutes and be equally rigorous."

- Traditional: Multiple choice + short answer questions
- Visual: Create a concept map or diagram with explanations
- Application: Solve a real-world problem using the concept

Result: Same learning outcome, different strengths showcased.

"Based on these student responses to my quiz [paste responses], generate:
- Follow-up questions for students who mastered the concept,
- Scaffolded practice problems for students who struggled,
- Alternative explanation prompts for confused students."

Result: Immediate, targeted support instead of one-size-fits-all review.
Turn assessment data into immediate learning support.