

Using Generative AI to Ensure Course Objective Alignment

Carolyn Fitzpatrick, Senior Instructional Designer
H. Wayne Huizenga College of Business and Entrepreneurship

ABSTRACT

Creating effective learning objectives (LOs) is a critical yet often onerous task for faculty in higher education. Learning outcomes are internationally accepted as a key factor for quality assurance, clarifying what a degree in a specific field means and providing insights for students to clearly see their learning pathway. Effectively written learning objectives enable students to visualize the specific skills and knowledge they will develop under instructor guidance and be able to competently perform after the course has concluded.

This importance is a key tenet of Quality Matters, which mandates that course-level learning objectives describe measurable outcomes (HE SRS 2.1). Despite this necessity, many educators find the process frustrating due to the demanding requirement for objectives to be clear, specific, and measurable while ensuring alignment with broader goals. Faculty often argue that students do not use LOs, but research confirms that students appreciate them and associate them with good course design when they are well-crafted and explained how to be used.

PROBLEM STATEMENT

Writing LOs is a frustrating and seemingly pointless exercise for many faculty members.

A significant challenge is the lack of precision in the verbs chosen by faculty members. Learning objective statements often include vague language that cannot be easily measured, such as "be able to" or "have the ability to," which fails to communicate the expected cognitive level. This challenge is compounded when faculty adopt an instrumentalist mindset, writing LOs simply "for the sake of the paperwork" (administrative compliance) while keeping syllabus details intentionally vague.

Consequently, many LOs fail to meet accepted best practice standards because faculty do not engage in the required deep pedagogical reflection. Often, a disconnect arises: robust course content may encourage high-level critical thinking, but the written LOs refer only to lower-level skills like "understanding" or simply remembering facts. This misalignment means that students reviewing poorly written course objectives are unprepared for the rigor demanded by course content.

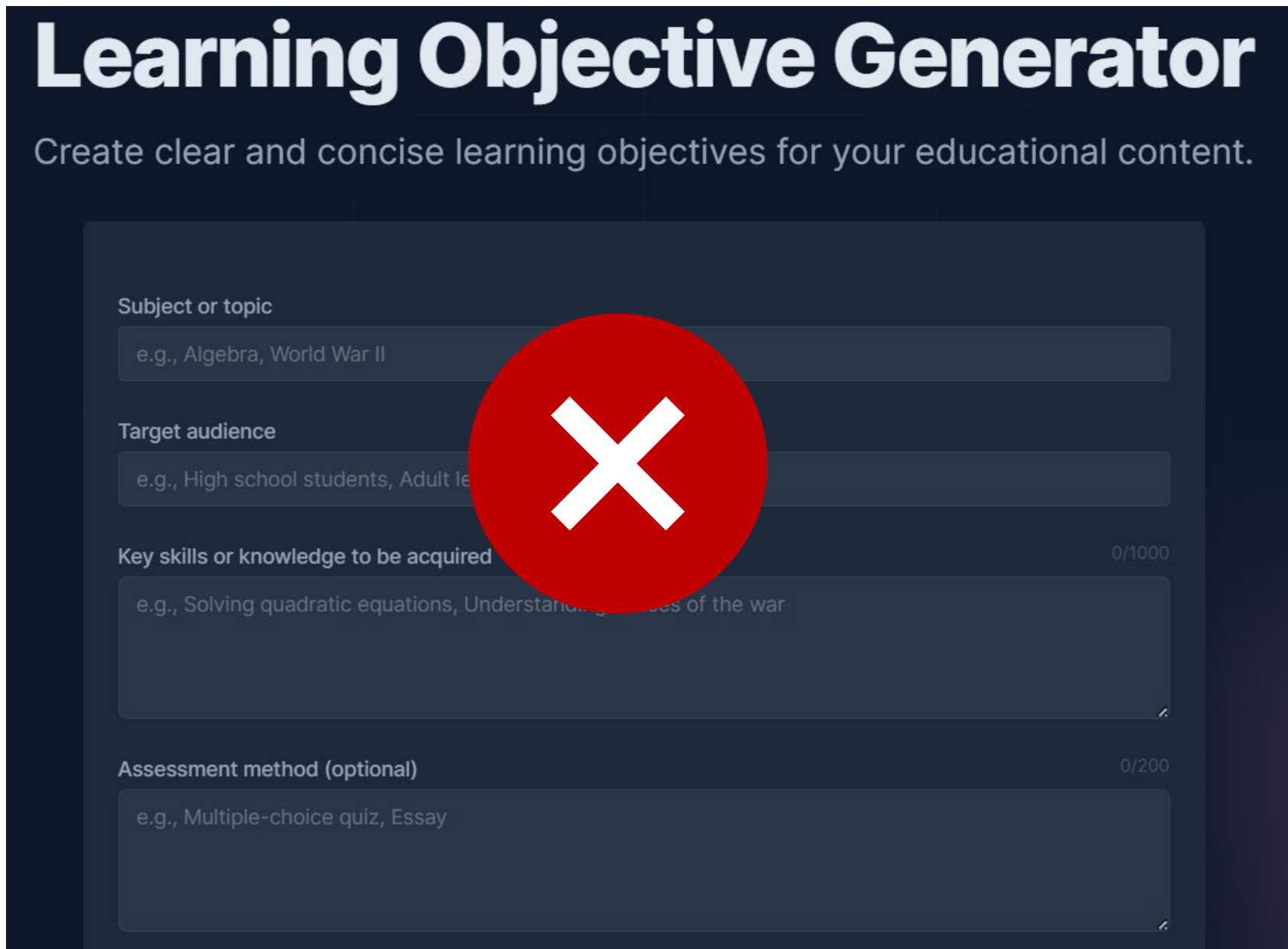
SOLUTION

Build robust, measurable LOs by chatting with AI about existing course elements.

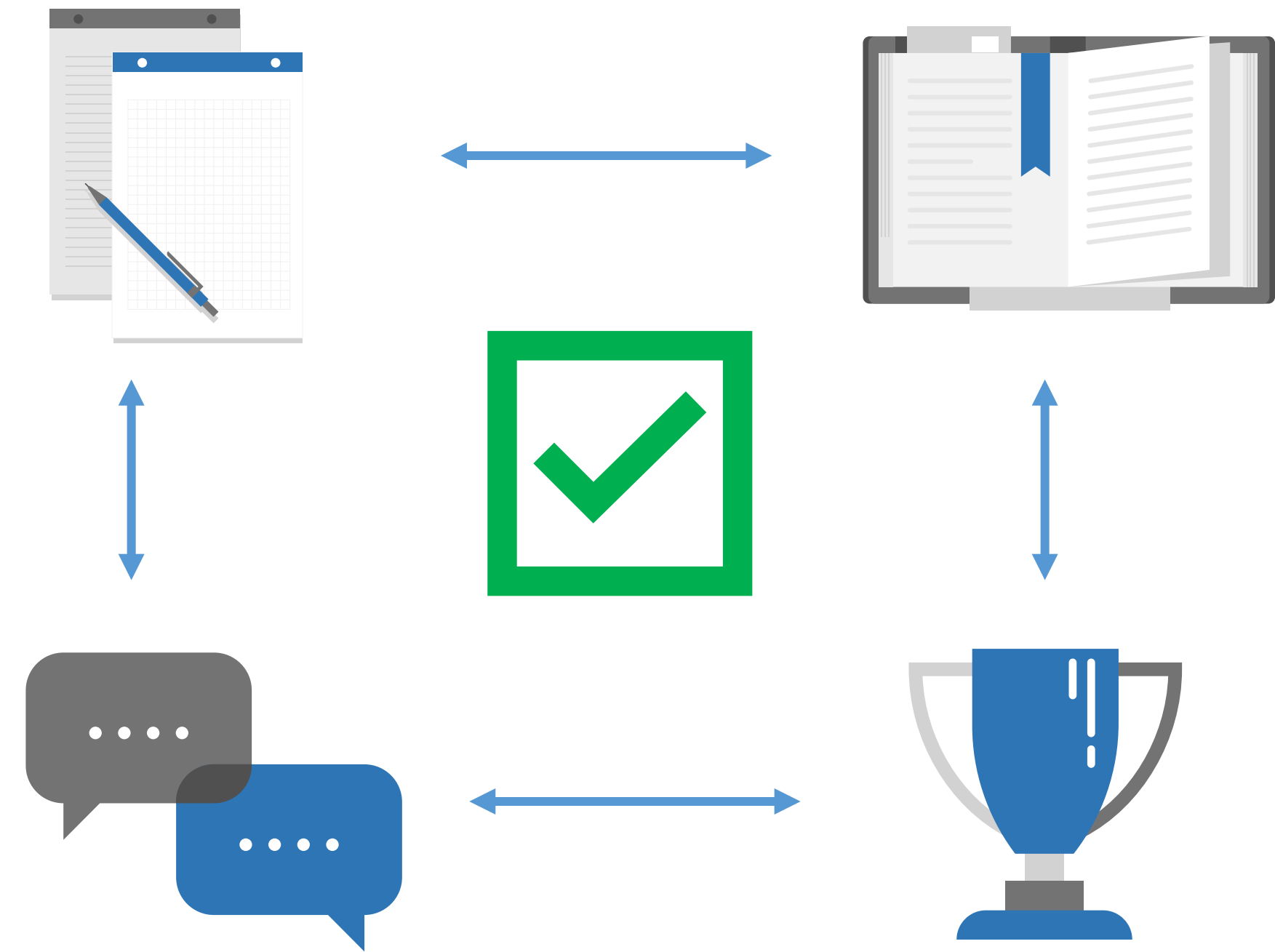
By leveraging public large language models (LLMs), such as ChatGPT and Microsoft Copilot, faculty can generate course objectives through structured, critical reflection. AI tools can expedite the creation and refinement of objectives by reviewing existing text to improve clarity, measurability, and consistency. Crucially, the preferred approach uses the AI as a reflective tool guided by a structured, prompt-driven framework, which explicitly augments, rather than substitutes, human expertise.

This framework consciously avoids open-ended generation, which is prone to producing coherent but contextually flawed content. Instead, the LLM is explicitly prompted by the course instructor to evaluate the alignment between Course Learning Outcomes (CLOs), assessment methods, and teaching strategies, thereby surfacing potential misalignments. Effective use necessitates deep human reflection required for constructing objectives using operational verbs that logically flow to assignments. By teaching faculty to construct learning objectives in conversation with an AI chat tool, they can ask questions and make "what if" statements, fostering a deeper understanding of the logic behind suggested changes.

Don't generate course objectives in isolation.



Generate them in relation to course elements.



PRACTICAL APPLICATION

Craft lengthy AI prompts, incorporating details about student needs, course elements, etc.

Online "learning objective generators" give the AI almost no information, which is why their results often sound generic and unhelpful. To make AI a reliable partner, we must be smart about how we talk to it. We are asking the AI to review **the relationship** between our specific learning goals and our course assignments, and to do this reliably, we must give it context and structure.

Use structured prompts that include as much relevant information as is available concerning the course, such as:

- The catalog's course description
- The course's format (in person, online, or hybrid)
- Any existing course objectives or program level objectives
- Topics of key lectures or textbook chapters
- Instructions and rubrics for existing assignments/assessments
- Objectives from prerequisite courses
- Objectives for consecutive courses
- Associated workplace skills

Review the AI's output, and provide feedback on its effectiveness. Provide concrete examples of what revisions are necessary.

Scan the QR code below to access a ChatGPT conversation demonstrating these techniques.



FURTHER APPLICATIONS IN COURSE DESIGN

Use Case	Prompt Components	AI Task	Instructor Action
Map Assessments to Course Objectives	Existing course objectives Assessment instructions/rubrics	Identify which course objectives are assessed by each assignment. Flag objectives assessed by multiple or no assignments. Detect assignments unrelated to any objectives.	Reconsider course design if objectives are under- or over-assessed. Remove or revise unrelated assignments.
Scaffold Course Objectives into Measurable Modules	Existing course objectives Description of students' entry-level knowledge	Break course objectives into scaffolded skills and concepts across X weeks. Format results as measurable module objectives.	Validate scaffolding for logical progression. Adjust pacing and complexity as needed.
Align Learning Activities with Module Objectives	Existing module objectives Current learning activities	Map learning activities to module objectives. Ensure each objective has practice and feedback opportunities.	Fill gaps where objectives lack supporting activities. Add formative feedback opportunities as needed.

CAUTIONS AND BEST PRACTICES

Human oversight remains essential.

Simple AI generation often fails to account for necessary contextual factors, discipline-specific pedagogy, or implicit institutional constraints. Therefore, human oversight remains essential. The AI is only as good as the prompt entered by the course instructor, and the instructor's critical evaluation of the AI's output.

The primary limitation is the tendency of LLMs toward hallucination, where the model invents plausible but inaccurate content, particularly concerning complex rules like institutional policies. Although directing the AI toward the provided documents mitigates that risk, faculty should still review the output for accuracy.

AI functions best as a decision-support system, augmenting rather than evading the instructional design process.

Faculty should seek out training in responsible AI use, privacy concerns, and copyright.

Faculty must also proactively address concerns regarding intellectual ownership of their online classroom materials, and the risk of their course assignments being used for future training data. Faculty should avoid using third-party AI technologies that are not institutionally supported.

The university IT department ensures that uploaded content and AI chats are not used as training data by third parties. Nevertheless, faculty must use caution with the content that they upload. Adhere to Fair Use policies regarding copyrighted material, and do not upload personally identifiable information (PII) from students or anyone else.

Regularly Review and Update AI Outputs for Relevance and Accuracy.

Even after initial implementation, it is crucial for instructors to periodically revisit AI-generated materials and recommendations. Institutional policies, accreditation standards, and course requirements can evolve, and AI models may not automatically account for these changes. Faculty should establish a routine for reviewing course objectives, assessments, and learning activities to ensure ongoing alignment with current standards and best practices.

Additionally, instructors should solicit feedback from students and colleagues about the clarity and effectiveness of AI-supported materials, using this input to refine both prompts and instructional content. This continuous improvement cycle helps safeguard academic integrity and ensures that AI remains a supportive, rather than disruptive, force in curriculum design.

Consult the QM AI Integration Toolkit

This valuable resource was developed in the Summer of 2025. It emphasizes **human-centered design, transparency** in communicating AI use to students, and engaging in **continuous critical reflection** to refine curriculum based on AI feedback.

CONCLUSION

Large language models can act as scalable and structured reflective tools in curriculum quality assurance, strengthening institutional readiness for review. The ultimate goal of effective instructional design is for faculty to make implicit expectations explicit, moving beyond simply listing content to clearly defining the abilities students are expected to develop. This level of intentionality necessitates detailed prompting and critical evaluation of existing materials. Automated objective generation creates the only the illusion of aligned and measurable content.