

BAY PATH UNIVERSITY

USING AN AI-NATIVE LEARNING ENVIRONMENT TO PERSONALIZE ONLINE LEARNING AT SCALE



Bay Path University piloted an AI-powered learning environment that embeds a Socratic AI tutor directly into the student experience. The model is designed to move beyond static content delivery by using AI to support personalized learning, faculty insight, and authentic assessment in online courses.

THE CHALLENGE AND OPPORTUNITY

Bay Path sought to address a common challenge in scaling online education: how to serve more students without creating a “cookie-cutter” learning experience. As online programs grow and student-to-faculty ratios increase, faculty need better ways to understand where students are struggling, what they are curious about, and when they need support. Bay Path also saw an opportunity to help faculty design and develop AI-native course experiences faster and more efficiently, while preserving the human mentorship that is central to effective teaching.

The most important question is not whether to build a custom AI platform, but what kind of instructional experience AI can make possible.

AT A GLANCE

Institution:

Bay Path University

Unit/Department:

AI operations/online learning

Use Case Category:

Teaching and learning;
instructional design/course
development; student support;
research/analytics

Stage of Implementation:

Pilot/early implementation

Primary AI Tool(s):

Custom AI-powered learning
environment developed with an
external partner, Axio.AI

THE AI USE CASE

Bay Path piloted a custom AI-powered learning environment in various courses. The courses were selected because they represented relatively low-risk settings and had been taught by the instructor for several years, making it easier to compare the AI-enabled experience with prior course designs.

The system is built around three core components. First, students interact with an AI Socratic tutor that serves as a primary instructional resource, replacing traditional lecture-based content. Students can engage with the tutor through text or voice until they demonstrate understanding of the module objectives.

Second, a data layer analyzes student interactions and surfaces patterns for faculty, including common confusion points, questions, and areas of mastery. Faculty can then use those insights to create targeted announcements, clarifications, and interventions.

Third, the model includes AI-supported oral examinations. These assessments are intended to promote retrieval practice by asking students to recall and explain what they know, rather than rely on external sources. AI supports grading against the stated module objectives, with faculty oversight remaining central to the instructional process.

IMPLEMENTATION SNAPSHOT

The learning environment was developed over approximately 24 months in partnership with an external developer, with Bay Path providing the pedagogical design and instructional strategy. The initial pilot was conducted in courses taught by three faculty members, with additional faculty members adopting the tool in their courses during the spring of 2026.

The work required collaboration across instructional, technical, and pedagogical roles. Bay Path's contribution focused on designing the learning model, defining how the AI tutor should support students, and determining how faculty could use interaction data to personalize instruction. Further details on governance, approval processes, and success metrics remain follow-up items for the case study.

RESULTS, BENEFITS, AND EARLY SIGNALS

Early signals suggest that the model can increase student engagement, support more responsive instruction, and help faculty identify student needs more quickly. By capturing real-time indicators of confusion, curiosity, and mastery, the system gives faculty a clearer view into student learning than they might receive from traditional LMS activity data alone.

The model also points to faster instructional workflows. Faculty can use AI-generated insights to focus their outreach, adjust explanations, and tailor support to student needs. Bay Path also gathered qualitative and quantitative data on student success, engagement, and instructional impact.

WHAT MADE IT WORK

The project was grounded in a clear pedagogical goal: not simply to add AI to an LMS, but to redesign the learning experience around personalization, mentorship, and retrieval-based assessment. The pilot also benefited from a well-understood course context, an instructor familiar with the course content, and a partnership model in which Bay Path guided the pedagogy while the external developer supported technical development.

Another important factor was the tool-agnostic mindset. Bay Path's team emphasized that the strategy matters more than the specific platform. The goal is to create a more responsive learning experience, whether through a custom system or through more accessible tools integrated into existing platforms.

RISKS, GUARDRAILS, AND ETHICAL CONSIDERATIONS

Bay Path identified several areas that require continued attention. Accessibility is a major priority; the current tool needs additional development to better support multiple modalities and meet accessibility expectations. The pilot also raised questions about the long-term sustainability and cost of custom AI development, especially if a similar student experience could be built using lower-cost or freely available tools within an existing LMS environment.

Because the system uses student interaction data to generate faculty insights and support assessment, future governance conversations should address student data use, transparency, privacy, accessibility, faculty oversight, and the appropriate role of AI in grading and feedback.

LESSONS LEARNED

A key lesson from Bay Path's experience is that institutions should start with the learning model, not the technology. The most important question is not whether to build a custom AI platform, but what kind of instructional experience AI can make possible. Institutions considering a similar approach should also plan early for accessibility, sustainability, faculty workload, and governance.

Bay Path's pilot also suggests that AI can help faculty personalize learning at scale, but only when paired with intentional pedagogy and human judgment.

TRANSFERABILITY FOR OTHER INSTITUTIONS

This use case may be especially relevant for online learning units, professional and continuing education divisions, and institutions seeking to personalize instruction as online enrollments grow. It may also be useful for institutions exploring AI-supported tutoring, learning analytics, oral assessment, or AI-native course design.

To replicate or adapt the model, institutions would need instructional design expertise, faculty willing to experiment, access to AI tools or development support, a clear governance process, and a plan for accessibility and data privacy. Institutions may not need to build a custom platform; elements of the model could potentially be recreated using existing LMS tools, AI tutors, discussion tools, analytics, and oral assessment workflows.