

AI Education at Lone Star College: An Innovation Case Study

The Institution

Lone Star College is one of the largest and most diverse community college systems in Texas, encompassing eight campuses and serving more than 80,000 students annually in the greater Houston area. With a mission centered on student success and workforce alignment, the college plays a pivotal role in shaping the educational and economic futures of its regional communities.

While Lone Star has long maintained a strong reputation for academic quality and innovation, the emergence of generative artificial intelligence (AI) technologies posed new challenges and opportunities for instruction and operations. Recognizing this potential impact, Lone Star embarked on a coordinated, system-wide effort to integrate this technology into its educational ecosystem.

At the center of this movement was Timothy Mousel, Department Chair of Chemistry, Kinesiology, and Physics. Mousel had already demonstrated early leadership by organizing an AI conference in March 2023 that drew crowds and sparked campus-wide interest. Impressed by the momentum and recognizing the need for system-wide coordination, Chancellor Mario K. Castillo, J.D., appointed Mousel to a special one-year role with a broad directive: “Identify system-wide issues and solve them.”

What began as a localized initiative quickly evolved into a comprehensive institutional strategy for AI readiness.

The Challenge

Like many colleges, Lone Star faced uncertainty and fragmentation in its response to generative AI. Faculty expressed anxiety over job security, academic integrity, and pedagogical relevance in the face of evolving tools. Some instructors had not updated their courses in 20 years and were unfamiliar with how to integrate or regulate AI in meaningful ways. Training resources were inconsistent across campuses, with some offering informal sessions while others had no support at all. There was no shared understanding of AI policies, no framework for implementation, and no organized way to share knowledge between departments or campuses. Integrating AI more deliberately into coursework could help students develop responsible usage habits and normalize the technology’s role in learning. By normalizing its role in the classroom, these efforts

would reduce the confusion and stigma surrounding tools many students were already using without clear guidance.

Despite clear institutional interest, innovation efforts were slowed. Faculty, staff, IT, legal counsel, and administration operated independently, without a unified structure or communication channel. Students, meanwhile, were using AI tools with little guidance or instruction, raising concerns about ethics, equity, and educational value.

Mousel observed not only local gaps, but a national trend: colleges across the country were struggling to address AI in a cohesive, coordinated manner. Lone Star's decentralized approach left it vulnerable to confusion, resistance, and missed opportunities.

The Innovative Solution

Lone Star's approach to AI innovation became system-wide by design and necessity. After being contacted by the Chancellor in late 2023, Mousel was given a single directive: "Identify system-wide issues and solve them." One of his first actions was to launch a formal Systemwide AI Task Force, composed of two AI champions from each of the college's eight campuses. He then secured a co-chair from among the college presidents and added representatives from IT, legal, faculty, and administration to ensure cross-functional collaboration.

To support this initiative, Mousel also designed and implemented a three-phase AI training series targeting all stakeholder groups: faculty and staff, students, and workforce and community partners. Each phase consisted of three sessions delivered in sequence, with the goal of building foundational skills and progressing toward more advanced, creative applications. The trainings emphasized both pedagogy and productivity, focusing on real-world implementation rather than theoretical overviews of large language model history. Participants learned strategies for effective prompt design, including tools for chatbot creation, workflow automation, course design enhancements, and even unconventional tactics like offering a hypothetical "\$50 tip" to improve output quality. The sessions were deliberately structured to ensure that attendees, regardless of role, could walk away from day one with actionable skills.

Mousel also developed hands-on instructional tools, including a chatbot that helps faculty redesign assignments to be AI-integrated or AI-resistant. He encourages curriculum design that aligns with real-world stakes, helping students see the value of assignments beyond mere compliance. Faculty who were skeptical have become some of the initiative's strongest supporters, publicly crediting the training with helping them transform their courses.

Rather than waiting for ideal conditions, Lone Star moved decisively. By beginning with senior leadership, Mousel secured top-down support that made further implementation easier. His “reverse-order” strategy, engaging administration before faculty, minimized early resistance and positioned AI not as a threat, but as an opportunity for relevance, efficiency, and student engagement.

Takeaways

Lone Star College’s rapid response to AI availability exemplifies the Agility Framework by highlighting creation of an administration-led task force, staff-led development of training programs and resources, and faculty-led curriculum redesign. Stakeholder involvement must work in concert to successfully implement technological innovation in higher education. Lone Star’s early lessons in adapting to innovation offer suggestions for other colleges.

Administration: Involve senior leaders along with other representative stakeholders in planning and implementation.

Lone Star administration formed a systemwide AI Task Force with representatives from all eight campuses and appointed one college campus president as co-chair. These choices demonstrated principal support for the task force’s work and also ensured consistent policy development and accountability across the college system.

In addition, the administration’s identification of a single faculty member to “identify system-wide issues and solve them” showed executive sponsorship of the innovation, establishing authority for the AI initiative.

Staff: Provide the right resources to the right stakeholder groups.

Lone Star understood the need for targeted training programs in the use of AI: a three-phase training series is tailored to faculty/staff, students, and community partners. Staff knew that faculty implementation of AI required both training and personalized assistance. However, the number of staff available required creative thinking. Their self-produced chatbot helps an individual faculty member redesign assignments in ways that acknowledge the availability of AI to students.

Developing training for the unique needs of different stakeholders and resources like the chatbot empowers faculty to innovate with concrete tools rather than theory.

Faculty: Adapt to AI innovation even if you don't adopt it.

Lone Star faculty who initially resisted AI became powerful advocates after experiencing how it could enhance their teaching by incorporating AI-integrated assignments. Early adopters then shared their early wins with others.

Even those faculty who remained skeptical of incorporating AI into their course assignments, learned through training that they could adapt their courses to the new reality by creating assignments that are AI-resistant and more likely to maintain academic integrity in the work of their students.