# Refining Higher Education's Core Competence and Its Shaping Influence on the Future of Learning and Work

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#### **Abstract**

Higher education plays a vital role in developing lifelong core competencies that empower graduates to thrive amidst technological and economic disruptions. This article proposes that higher cognitive skills, emotional intelligence, and digital literacy are key competencies that promote transferable skills applicable across diverse industries and markets. It provides recommendations for how the higher education community can strategically cultivate these timeless yet critical competencies while also leveraging innovations like artificial intelligence (AI). The University of Louisiana System's core competencies initiative demonstrates a framework outlining essential skills for lifelong success. As jobs rapidly evolve with advancing AI, adaptability becomes key, and core competencies ready graduates for new challenges by developing transportable human strengths. By upholding core competencies while innovating, higher education can fulfill its vital purpose of empowering students to define their own success despite disruption.

*Keywords:* core competence; artificial intelligence; transferable skills

### Introduction

Postsecondary education holds greater significance than ever before in enhancing individual well-being, promoting economic empowerment, and bolstering America's competitive edge (Irwin et al., 2023). Studies (Chetty et al., 2017; Ma et al., 2020) consistently show a strong, positive correlation between educational attainment and upward social and economic mobility. Given the relationship between higher education and the local, national, and global economies, it is not surprising that workforce development and higher education are the

cornerstones of most states' economic development agendas. Growing small businesses, expanding and adapting existing industries, attracting new and innovative companies, and future-proofing state economies all depend on talent developed by the higher education enterprise.

The purpose of this article is to (a) highlight higher education's vital role in developing core lifelong competencies that allow individuals to thrive amidst technological and economic disruption, (b) propose a framework of key competencies including higher cognitive skills, emotional intelligence, and digital literacy, and (c) provide recommendations for how the higher education community can strategically embed and uphold these competencies while also leveraging innovations like artificial intelligence (AI). The overarching goal is to articulate the continuing value of higher education in cultivating adaptable human potential to empower graduates to navigate an unpredictable future workforce transformed by technology.

# **Higher Education's Role in Developing Lifelong Competencies**

Underlying the education-employment relationship is a concept with multiple applications: core competence. Conceptualized by C.K Prahalad and Gary Hamel (1990) in "The Core Competence of the Corporation," core competence is the combination of resources and skills that distinguish an organization from its competitors. The authors contend that an enterprise that can "clearly identify, cultivate, and exploit its core competencies" can sustain any market disruption; enterprises that fail to do so become irrelevant (Pralahad & Hamel, 1990, p. 15). A review of the higher education literature (Basilotta-Gómez-Pablos et al., 2022; Edgar & Lockwood, 2008; Dervenis et al., 2022) identified three core competencies that meet the established requirements in the core competence framework: higher cognitive thinking, emotional intelligence, and digital literacy. These competencies have promoted transferable skills, which are applicable across diverse industries, enterprises, and markets.

Recent data shows the US labor market is undergoing major shifts (Schneider & Slobin, 2023). During the pandemic (2019-2022), occupational transitions jumped 50% higher than the prior period, with many workers leaving food services, sales, and office roles (Mahoutchian et al., 2023). Amanda Russo (2020) of the World Economic Forum predicts that by 2030, automation could impact 30% of work hours, disproportionately affecting lower-wage roles. Meanwhile, climate initiatives and infrastructure investment will also reshape labor needs. An additional 12 million occupational changes may occur by 2030, requiring expanded workforce development and

hiring based on skills over credentials (Ellingrud et al., 2023). Strengthening core competencies prepares individuals for navigating these labor market changes. Each competency ranks among the most desired workplace skills that cannot easily be replaced by automation (Zirar et al., 2023).

# **Higher Cognitive Thinking**

Higher cognitive thinking in higher education traces back to Socrates, who established the importance of seeking evidence, closely examining reasoning and assumptions, and analyzing conceptual meanings (Batista, 2015; Paul & Elder, 2007; Dyason, 2019; Facione, 2014). The Socratic method's emphasis on critical thinking provides a framework for understanding and developing the higher cognitive skills predicted to become increasingly vital in the future of work. As AI systems generate more information, human judgment and evaluation are needed to assess outputs. Higher cognitive skills like logical reasoning, critical analysis, complex problem-solving, and strategic decision-making empower individuals to leverage AI responsibly. Strengthening higher cognitive abilities is essential to direct technology to benefit society. Socratic questioning techniques remain highly relevant for cultivating the critical thinking required in an AI world.

### **Emotional Intelligence**

Emotional intelligence has emerged as a core competence associated with higher education, especially in recent decades. According to Salovey and Mayer (1990), emotional intelligence is a form of social intelligence that involves monitoring one's own and others' emotions, distinguishing between them, and using this awareness to guide thinking and action. As AI systems become more prevalent across industries, emotional intelligence remains a distinctly human strength as self-awareness, empathy, relationship building, and collaboration allow people to complement AI capabilities. While machines can process data, humans understand nuanced social and emotional contexts. Developing emotional intelligence empowers individuals to work effectively in a technology-driven world.

# **Digital Literacy**

Since the early 21st century, digital literacy has rapidly emerged as a core competence embedded across higher education, either as an intentional program outcome or ancillary skill gained through studies (Sillat et al., 2021). Though the term was first coined by Paul Gilster (1997), who defined digital literacy as mastering ideas over keystrokes, the concept has expanded to encompass skills (finding and evaluating online information, understanding security risks, analyzing media influences, and considering the social impacts of technologies) needed to succeed

in an increasingly digital world (Reddy et al., 2023). As AI systems generate more content, responsible use and interpretation of digital information is critical. Digital literacy enables individuals to utilize technology effectively and ethically.

# **Leveraging Innovation, Cultivating Skills**

Innovations such as generative AI, open educational resources, and micro-credentials have the potential to augment and enhance higher education's ability to prepare students for the future of work (McGowan & Shipley, 2020). Generative AI can create personalized and adaptive learning content tailored to each student's needs and learning style (Mowreader, 2024). Open educational resources provide free, high-quality learning materials that increase access to and affordability of education (Hilton, 2020). Micro-credentials allow students to gain skills and demonstrate competencies in more targeted, flexible ways (Gallagher, 2016, 2018). When holistically incorporated into students' curricula, these innovations have the potential to make education more accessible, personalized, and relevant to the learning experience and the job market.

As the nature of work rapidly evolves, adaptability becomes key, and higher-order cognitive skills, emotional intelligence, and digital literacy become vital to navigating an ever-changing landscape. While these innovations open new possibilities, core competencies cultivated through educational attainment remain essential. Higher education leaders are faced with determining how best to leverage innovations while upholding core competencies (Kleimola & Leppisaari, 2022; Rix, 2023).

#### **Opportunity in Uncertainty**

The evolution of workforce demands is predicted to accelerate with major disruptions driven by demographic, political, economic, technological, and social shifts (Lund et al., 2022). Though this transformation brings uncertainty, it also brings opportunities and an increasing emphasis on skills, competencies, and lifelong learning. This complex landscape requires adaptability. Core competencies like critical thinking, emotional intelligence, and digital literacy enable learners to continuously upskill, transition between roles, and collaborate with AI systems (Mahoutchian et al., 2023). Higher education must move beyond solely granting degrees to nurturing these transportable competencies. With purposeful development of human skills, supported by emerging technologies, graduates can thrive in unpredictable futures and expand higher education's impact by embodying dynamic human potential.

## **COVID-19 Impacts**

The novel Coronavirus disease 2019 (COVID-19) brought abrupt and unprecedented changes to the US labor market. By early 2020, COVID-19 had spread globally and triggered widespread shutdowns and restrictions. While the acute phase of the pandemic dissipated by mid-2022, the economic impacts have persisted. During the height of the pandemic in 2020, the unemployment rate in the U.S. peaked at nearly 15% as businesses closed and jobs were lost. Over the last two years, the unemployment rate has declined to pre-pandemic levels of around 4%. However, the disruptions in the labor market have not affected all groups equally. Research shows that individuals without a college degree experienced higher rates of unemployment and larger declines in labor force participation compared to those with a bachelor's degree or higher (Gould & Kassa, 2021). These disparities highlight the continued importance of higher education in equipping individuals with the resilience and adaptability to weather economic uncertainty.

The disproportionate impacts of COVID-19 on the workforce made higher education's role abundantly clear. However, the accelerating pace of AI innovation also raises questions about the future value of traditional college degrees. Some argue that AI and automation will displace many traditional white-collar jobs, reducing demand for college-educated workers (Frey & Osborne, 2017). Others counter that human skills like creativity, critical thinking, and empathy will become even more essential in AI-enhanced workplaces (Bughin et al., 2018). While predictions vary, evidence still shows positive outcomes for college graduates. During COVID-19, those with bachelor's degrees or higher experienced lower unemployment rates and fewer declines in labor force participation compared to high school graduates (Gould & Kassa, 2021). Higher education provides adaptability even during disruptions, which highlights an opportunity to continue preparing learners with the core competencies to engage with technological advancements, which in turn ensures that graduates can remain responsive to an unpredictable future.

#### **Core Competence Framework in Higher Education**

While Prahalad and Hamel's (1990) core competence framework lays the theoretical and conceptual foundation, it fails to address the strategies and steps required to operationalize and manage the competencies in a way that benefits the enterprise. Scholars acknowledge that entities that fail to create an environment to develop or acquire core competencies and continuously work to upgrade and nurture them in relation to internal and external environments are not positioned to

sustain market disruptions and/or innovations (Edgar & Lockwood, 2009; Muzam, 2023; Prahalad & Hamel, 1990). This section provides practical and actionable strategies for operationalizing and managing core competencies to learners remain competitive in the future workforce. The recommendations call for the development, awareness, resource alignment, and assessment and intervention of higher education's core competencies.

# **Development**

Develop an organizational roadmap to ensure that higher education's core competencies—critical thinking, emotional intelligence, and digital literacy—are embedded in every aspect of the student's experience (Edgar & Lockwood, 2009; Muzam, 2023; Prahalad & Hamel, 1990). Academic courses provide an enriching environment designed to expose, develop, and evaluate core competencies. However, complex problems seldom have unilateral solutions—and career preparation is no exception. Research has shown that participation in co-curricular programs enhances students' holistic well-being and their knowledge and skill acquisition in areas such as critical thinking, adaptability, problem-solving, teamwork, intrapersonal development, interpersonal competence, humanitarianism, and civic virtue (Kuh, 2001). Colleges and universities have implemented a co-curricular record (CCR), or a co-curricular transcript, recognizing the benefits and evidence of the connection between participation in such activities and the development of skills desired by employers (Elias & Drea, 2013; Morningstar et al., 2023).

### Awareness

All students must not only be aware of the core competencies and must be able to articulate them as well (Edgar & Lockwood, 2009; Muzam, 2023; Prahalad & Hamel, 1990). Despite the overwhelming evidence that college experiences translate into employability skill sets, studies consistently show a disconnect between students' and employers' perceptions of how prepared students are in these competencies (Bauer-Wolf, 2018). Scholars also point to a skills articulation gap between students and employers (DuRose & Stebleton, 2016; Tomasson Goodwin et al., 2019). The higher education community is responsible for cultivating these competencies—and educating students on how to articulate them. Kovalcik (2019) argues that employability skills are embedded in the job market and articulation is necessary for students to be successful post-graduation. Building skill articulation must work in conjunction with skill development. Competencies cannot be disconnected concepts: graduates must be able to articulate their skills and how they transfer across all contexts.

## **Resource Alignment**

Resources must be strategically aligned to ensure continuous cultivation and upgrades to the core competencies (Edgar & Lockwood, 2009; Muzam, 2023; Prahalad & Hamel, 1990). The development and maintenance of core competencies require an organization's strategic investment and alignment of resources. Resource investments and alignment include shoring up *human capital* (i.e., investment in internal and external stakeholders to leverage core competencies and hone them further), *technological capital* (i.e., investment in the deployment of technology that enhances an organization's ability to nurture and upgrade its competencies), and *organizational capital* (i.e., investment in the organizational structure to ensure that the day-to-day operations embody the core competencies).

#### **Assessment and Intervention**

Innovative approaches to the assessment of core competence attainment coupled with targeted, individualized interventions are essential to upskilling incumbent workers and non-traditional students (Edgar & Lockwood, 2009; Muzam, 2023; Prahalad & Hamel, 1990). Merely applying these recommendations to traditional educational pathways is insufficient. The changes to the very nature of work will demand these developed core competencies from even mid- and late-career professionals. Notably, 80% of 2030's workforce is already in the workforce today (The World Economic Forum, 2023). New lifelong learning models must include approaches to assessing innate and career-derived core competency attainment among existing workers and non-traditional students and interventions designed to close competency gaps.

# **University of Louisiana System Core Competencies**

In a letter dated 2021, Dr. Jim Henderson, then President and CEO of the University of Louisiana System, underscores the importance of preparing graduates for enduring success in their professional and personal lives, particularly considering technology's automation of routine tasks (*Core Competencies*, 2022). Henderson's deep concern stems from observing the transformative effect of advancing technology and AI applications on the "future of work" (*Core Competencies*, 2022, para. 1). He notes "for . . . graduates to be successful" as these technologies automate an increasing number of repetitive tasks, "they [the graduates] must be prepared with capabilities that technology simply cannot replace." (*Core Competencies*, 2022, para. 1). While UL System member institutions have long prepared students for career and life, Dr. Henderson admits, "the

competencies our graduates develop beyond those associated with specific disciplines [had] been ill-defined or at least poorly articulated" before this initiative (*Core Competencies*, 2022, para. 2).

To address this gap, in 2019 Henderson "identified a group of talented faculty members, academic officers, and presidents and charged them with defining the essential skills each of [their]graduates develop at the Universities of Louisiana, no matter the degree program" (*Core Competencies*, 2022, para. 3). In 2022 this task force delineated five core competencies (see Table 1) that "will lead to lifelong success in life and career" for graduates (*Core Competencies*, 2022, para. 3). According to Henderson, clearly defining these competencies "enable[s] graduates to better communicate their value to future employers; improve[s] employer recognition of the readiness of UL System graduates; and educate[s] . . . government leaders about the true value of a bachelor's degree" (*Core Competencies*, 2022, para. 4).

**Table 1**University of Louisiana System Core Competencies

<b>Core Competency</b>	Description
Communication competence	Understanding information and conveying ideas effectively.
Critical and creative problem-	Evaluating complex situations and developing efficient
solving	solutions.
Adaptable resilience	Being adaptable and meeting expectations despite
	changing realities.
Cultural competence	Working productively with diverse people.
Self-Reflective awareness	Pursuing continuous growth and awareness of one's
	Limitations.

(Content from UL System Core Competency Framework, 2022)

The task force provides detailed recommendations for integrating core competencies across the curriculum and assessing their development. They advocate embedding communication competence across general education writing and speaking courses, "writing across the curriculum," and information literacy courses (*Core Competencies*, 2022). Suggested assessments include the American Association of Colleges and Universities (AACU) VALUE rubrics for

written and oral communication, digital portfolios displaying competence, and research assignments with presentations (*Core Competencies*, 2022).

For critical and creative problem solving, the task force suggests building skills through general education courses in logic, critical thinking, and exploring causality in humanities and social sciences. Recommendations include problem-based learning and proposed assessments involving case study analysis, AACU VALUE rubrics for problem-solving, and analytical writing assignments (*Core Competencies*, 2022).

To develop adaptable resilience, sustained long-term assignments, experiential learning demanding commitment, and assignments with unexpected challenges are recommended. The committee also suggests using the AACU VALUE rubric for "Foundations and Skills for Lifelong Learning" to assess course completion rates, graduation rates, and internship supervisor evaluations (*Core Competencies*, 2022).

To advance cultural competence, the task force recommends general education courses that examine diverse cultures, beliefs, and perspectives. Group assignments fostering teamwork with diverse peers are also suggested. Peer assessments, self-reflections, and the AACU VALUE rubric for "Intercultural Knowledge and Competence" are proposed assessment methods (*Core Competencies*, 2022).

Finally, for self-reflective awareness, the incorporation of reflection in general education, first-year experience, and majors' courses with opportunities to demonstrate growth is recommended. Reflection papers, growth journals, and AACU VALUE rubrics for "Integrative Learning" and "Foundations and Skills" are suggested for assessment (*Core Competencies*, 2022).

As the task force's work demonstrates, developing core competencies empowers graduates to thrive amidst the transformative effects of advancing technology. This mission grows only more crucial as AI capabilities progress. The accelerating pace of AI development, including natural language systems and generative writing models, promises to reshape many industries and redefine workplace skills in the coming years. These seismic technological shifts underscore the need to equip students with adaptable human capabilities to navigate the emerging landscapes.

# Forging forward toward the future of AI and Core Competencies

The goal of core competence is to equip lifelong learners and engaged citizens with the tools to thrive in a complex world being reshaped by emerging technologies like generative AI. As the research highlights (Mao et al., 2024; Kaplan-Rakowski at al., 2023; Cooper, 2023),

generative AI tools such as chatbots, virtual assistants, and adaptive learning platforms are rapidly transforming online teaching and learning in higher education by providing personalized and student-centered experiences. However, as these systems become more advanced and widespread, cultivating core human competencies is crucial for utilizing them responsibly and effectively in education.

Table 2, developed by King & Hornsby (2023), both members of the UL System, expands on the system's core competence framework by outlining key competencies and examples of how they enable the ethical and productive application of generative AI.

**Table 2**Applying UL System Core Competencies to Generative AI

Core competency	Application to using generative AI
Communication Competence	Articulate prompts clearly; provide constructive feedback; thoughtfully integrate outputs
Critical Thinking	Analyze outputs carefully; consider potential biases; develop ethical frameworks
Creativity	Experiment with prompts; iterate rapidly; blend with human ingenuity
Cultural Competence	Curate inclusive data; gain insights into perspectives
Adaptability	Continuously learn capabilities; develop resilience to mistakes; integrate adaptively into workflows
Self-Reflection	Reflect on the impact on thinking; consider implications for self-development; set goals to grow skills
(King & Hornsby, 2023)	

By fostering these competencies in teaching and learning, higher education can realize the promise of generative AI while empowering lifelong learners to utilize these rapidly advancing tools judiciously, creatively, and ethically.

#### Conclusion

As AI automates certain tasks, human strengths like critical thinking, creativity, empathy, and collaboration remain essential. By honing these core competencies, higher education provides the adaptability needed for the future of work. While specific learning outcomes have value, core lifelong competencies allow graduates to transfer knowledge across contexts. As jobs evolve rapidly, adaptability is key. Competencies ready students for new challenges by developing transportable human potential. By upholding timeless skills while innovating, higher education can continue empowering students to define their own success.

Throughout history, technology has been a source of both angst and optimism. Today's innovations bring new possibilities but also disruptions. Core competencies remain essential for navigating this change. With a strategic focus on developing adaptable competencies, higher education can equip students with the tools to thrive despite unpredictability. By embedding competencies across the student experience, ensuring students can articulate them, aligning resources to cultivate them, and continuously assessing and upskilling, colleges and universities can prepare graduates for the future. With creativity, ethics, and reflection, higher education can help shape technology for the greater good. The 21st-century learner must be adaptable, and by upholding core competencies while integrating innovations, higher education can fulfill its purpose of cultivating human potential to meet the challenges ahead.

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