

Applying a Modified IPO Model to Attract, Engage, and Prepare the Next Generations of University Students

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Abstract

Higher education is being reinvented amid declining enrollment, growing competition from alternative learning providers, and increasing questions about the value of traditional degrees. At the same time, AI is rapidly reshaping workforce expectations, placing greater emphasis on attracting, engaging, and retaining the next generation of learners. Generation Alpha —youth born between 2012 and 2024— represents the first cohort raised entirely within an artificial intelligence-driven, digitally immersive environment. Those born at the beginning of this generation are currently in middle school and high school. Although Gen Alpha’s educational expectations and learning preferences somewhat resemble those of previous generations (such as Gen Z), these prospective students will also differ significantly in many respects, requiring institutions to rethink traditional approaches to instruction and engagement. This paper proposes and applies a modified version of the Input-Process-Output (IPO) model to examine the emerging generation of learners and identify strategies for engaging and preparing them for the evolving demands of the workforce. The authors highlight several high-impact practices—used at their own institution—that programs can adopt to address those concerns as they attempt to attract, engage, retain, and prepare the next generation of computer science and information system students for career readiness.

Keywords: Generation Alpha characteristics, Employer expectations, High-impact practices, CS2023 dispositions, Career-readiness

Applying a Modified IPO Model to Attract, Engage, and Prepare the Next Generations of University Students

Dana Schwieger and Christine Ladwig

1. INTRODUCTION

The educational landscape has experienced and continues to experience significant challenges in the form of declining enrollments (Grawe, 2018; Lane et al., 2024; Riley, 2025), budget constraints (Riley, 2025), and societal changes (VandeHei & Allen, 2025). Faculty are facing an increasing number of expectations as they balance the pressures of anticipating the needs of an AI-enhanced workforce, adapting their coursework to educate AI-supported students, developing engaging classroom materials, and meeting the expectations of programs and employers. In light of these challenges, the higher educational process needs to be approached as a team effort by developing stronger relationships with stakeholders at both ends of the process.

McGrath's (1964) work on groups, teams, and their interactions is credited with the origins of the Input-Process-Output model. The authors apply a modified version of McGrath's (1964) Input-Process-Output framework to examine the characteristics of Generation Alpha (Gen Alpha) (McCrindle Research, 2025; McCrindle & Fell, 2020; Ziatdinov & Cilliers, 2021), employer expectations (NACE, 2019, 2024, 2025), and current challenges facing higher education (Riley, 2025) to propose strategies used at the authors' institution for attracting, engaging, retaining, and preparing students for career readiness with a team perspective in mind.

2. LITERATURE REVIEW AND METHODOLOGY (IPO Application)

Preparing the current and next generation of college students to be career-ready involves much more than just a mix of students, lessons, and instructors. The development of relationships among these elements is critically important. Toward this end, McGrath's (1964) work focused on the *group*, noting that groups consist of members who have roles, positions, interactions, and relationships. These groups exist within an environment for a reason that he termed the group's task. As the members interact toward completing the task, the roles, positions, characteristics, interactions, and/or relationships will change. These elements essentially form the foundation of the IPO framework in which inputs from actors are transformed during a process to fulfill a task that changes based upon interactions and generated feedback. The societal changes currently affecting higher education are bringing to light how invaluable those interactions are to the educational process. McGrath's (1964) Input-Process-Output (IPO) model provides a structured framework for analyzing the transformational processes of the traditional postsecondary educational experience and highlighting the influence of those involved.

In this paper, the authors use a modified version of McGrath's (1964) IPO model as an analytical framework to describe the current environmental and stakeholder conditions that are driving the need for change in the higher education landscape. These external forces and requirements (Input) include aspects such as the declining student cohort size and employer-sought skills and competency needs. The Process segment of the model examines how these challenging inputs may be transformed by strategies to attract, engage, and retain upcoming generations of higher education students, such as earlier awareness of educational programs and personalized learning. These strategies and techniques are designed to address the changing perspectives and learning styles of Gen Alpha and other prospective students. The Output aspect of the model describes potential student outcomes, such as employable graduates and career readiness, which address the input challenges. Additionally, institutional outcomes are examined as a result of the transformation of the input elements. The modified IPO also provides an organized framework in which to gather feedback and evaluate the success of the process in meeting the outlined objectives—namely to attract, engage, and retain future student populations.

Figure 1 represents the authors' application of the IPO model. The model's Input includes Environmental & Stakeholder Conditions; the Process segment focuses on Institutional Strategies & Educational

Practices; and the Output component examines Career-Ready Graduates and Relationship Development. The model also incorporates a feedback and evaluation loop, recognizing that assessment data, employer input, alumni feedback, and performance outcomes can inform the continuous improvement of institutional strategies, educational practices, and future outcomes. The following sections describe the modified IPO model components and their individual elements and the roles they play in the educational process.

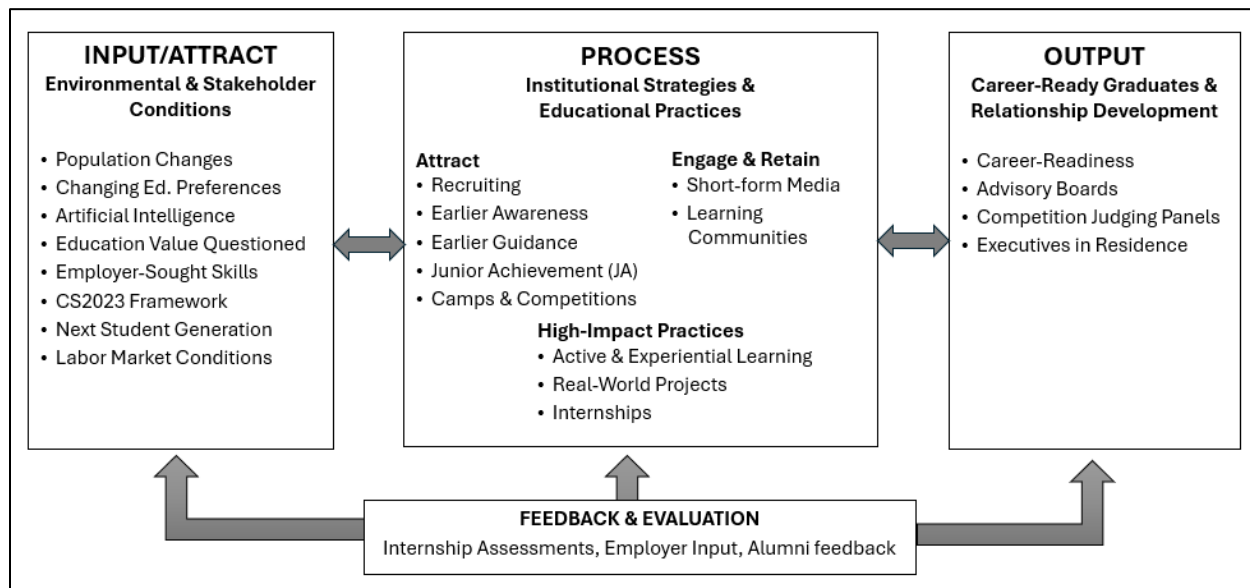


Figure 1. Modified IPO model for examining and addressing current challenges in Higher Education *Note. Adapted by the authors based on McGrath's (1964) IPO framework.*

3. Input Component: Environmental Stakeholders & Conditions

The Input component captures the demographic, technological, economic, workforce, and societal conditions that shape higher education. These external forces influence institutional priorities and require colleges and universities to continually adapt their recruitment, engagement, educational, and career-preparation strategies.

Population/Demographic Changes. Following the Great Recession of 2008, demographic researchers warned that declining birth rates would be a future concern for colleges and universities (Grawe, 2018; Lane et al., 2024; Riley, 2025). A report by the Western Interstate Commission for Higher Education (WICHE) noted that "Births in the U.S. have dropped by about 1% in virtually every year from 2008 to 2023, including a stark 4% decrease in 2020" (Lane et al., 2024, p. 14). In addition, post-secondary enrollment numbers have declined since 2010 (NCES, 2023).

Changing Preferences. Teens' interest in pursuing a traditional four-year college education has waned, with learner preferences leaning toward flexible, skill-focused alternatives such as trade or technical school, apprenticeships, and technical bootcamps (Britebound, 2024). In addition, educational options are expanding including online certificate programs, Massive Open Online Courses (MOOCs), YouTube-based instruction, TikTok tutorials, and industry-sponsored certifications (Hanover Research, 2025). Credential Engine (2025)—a nonprofit organization that aids the public in understanding the credential marketplace—identified over 1.5 million unique credential opportunities available to students in the U.S. from non-post-secondary institutions. While many students recognize the need for further education beyond high school, for some, their career path is unclear (ECMC Group, 2023).

Artificial Intelligence (AI). Further complicating the educational pathway landscape are the whispers that AI will be replacing entry-level workers. Dario Amodei, CEO of Anthropic—a company that develops LLMs (such as *Claude*) and AI assistants—believes that AI could "wipe out about half of all entry-level white-collar jobs in the next five years, leading to unemployment spikes up to 20%" (VandeHei & Allen,

2025). Reports aligning with Amodei's comments show the impact AI is having on computer science and MIS graduates. In the *SignalFire State of Tech Talent Report-2025*, hiring of recent graduates from four-year programs has fallen by more than 50% from pre-pandemic levels at major technology companies. In addition, recent graduates now account for only 7% of hires at large technology firms (Bantock & SignalFire Talent Team, 2025).

Education Value Questioned. Based on such assessments, students are questioning the value, cost, and structure of traditional higher education pathways. According to a 2024 survey of 1,000 currently enrolled undergraduate and graduate students conducted by Pure Spectrum, only one-third (33%) said college is worth the cost, 29% reported that it was not worth the cost, and 38% were on the fence (Welding, 2024). As a result, career exploration and pathway awareness must start much earlier, often during the middle school years when students begin forming perceptions about educational options, career opportunities, and the value of postsecondary learning (ACTE, 2023; Goins, 2026; Wang & Wang, 2025; Willcoxon & Marken, 2023). This shift is particularly important for computer science and information technology (IT) programs that face increasing competition for student attention from alternative credentials, workforce training providers, and evolving labor market expectations.

Employer-Sought Skills. NACE is a professional association "that connects over 17,000 college career services professionals, early talent recruiting and university relations professionals, and the business solution providers that serve this community" (NACE, 2026a, p. 1). Each year, NACE conducts multiple surveys of their constituents to analyze and provide reports on job forecasts, hiring trends, starting salaries, recruitment and hiring practices, student attitudes and outcomes, and employment of college graduates (NACE, 2026b). Table 1 provides a comparison of the top skills sought by employers in 2025 compared to 2020 and the percentage change in value post-COVID. Appendix A provides a visual comparison of the two data sets highlighting the change in skill preferences between the two studies.

Attribute	% of Respondents		
	2025	2020	Change
Problem-solving skills	88.3	91.2	-2.9
Ability to work in a team	81.0	86.3	-5.3
Communication skills (Written)	77.1	77.5	-.4
Initiative	73.7	69.6	4.1
Strong work ethic	73.2	80.4	-7.2
Technical skills	73.2	65.7	7.5
Communication skills (Verbal)	69.3	69.6	-.3
Flexibility/ Adaptability	67.0	62.7	4.3
Analytical/ quantitative skills	67.0	79.4	-12.4
Detail-oriented	65.9	67.6	-1.7
Interpersonal skills	63.1	62.7	.4
Computer skills	55.9	54.9	1
Leadership	52.5	72.5	-20

Table 1. Skills Sought by Employers (NACE, 2019; NACE, 2026b)

According to NACE, the top three skills sought by employers in both 2025 and 2020 were professional characteristics including problem-solving, teamwork, and written communications (NACE, 2026b). However, there was a significant increase noted in 2025 for employees having technical skills (+7.5%), flexibility/adaptability (+4.3%), and initiative (+4.1%). A significant decline was noted in leadership (-20%), analytical/quantitative skills (-12.4%), strong work ethic (-7.2%) and teamwork (-5.3%) (Table 1). The -20% change in leadership is especially notable. According to the Society for Human Resource Management (SHRM), this change does not necessarily indicate a declining need for the skill. SHRM believes organizations may be shifting from requiring demonstrated leadership in entry-level positions to developing leadership capabilities after hiring through coaching, mentoring, and progressive responsibility (SHRM, 2026).

CS2023 Professional Dispositions. CS2023 establishes a set of professional competencies and behaviors that inform curriculum design, helping Computer Science programs align educational outcomes with workforce demands and employer expectations. In January 2024, The Joint Task Force on Computer Science Curriculum published their framework for guiding development of computer science curriculum in undergraduate programs (Kumar et al., 2024). The framework includes a section entitled “Professional dispositions—the whole person view.” The task force defined the “Professional Dispositions” by evaluating survey responses of 110 academics and 865 industry practitioners. The task force characterized these knowledge areas as being essential for both success in the workplace and thriving as a professional (p. 56). Many of the areas identified in the CS2023 taskforce study (Table 2) echo the results of NACE’s survey (Table 1). Overlapping characteristics between the two studies are identified with an asterisk in Table 2.

Adaptable *	Continually evolving
Collaborative *	Able to work in a team
Inventive	Able to devise new solutions and apply existing solutions to new contexts
Meticulous *	Able to ensure the correctness and completeness of a solution
Persistent	Does not give up when problem-solving.
Proactive *	Able to anticipate issues associated with usability, security, ethics, etc.
Responsible	In all aspects of a solution including design, implementation, and maintenance
Self-directed *	Committed to life-long learning

Table 2. Professional dispositions from CS2023 (Kumar et al., 2024)

Characteristics—such as “Adaptable”, “Collaborative”, and “Inventive”—are cited in the task force report as “essential for not just succeeding in the workplace but also thriving as a professional” (Kumar et al., 2024, p. 56). Together, the NACE survey and CS2023 report offer consistent guidance regarding the skills and dispositions that educational programs should prioritize.

Next Generation of Incoming Students. Gen Alpha’s focus on intense technology usage, skill-based learning, and collaboration (Ziatdinov & Cilliers, 2021) has resulted in a continued shift in educational engagement relative to the preceding population of Gen Z learners. Elementary and secondary schools are changing from “structural and auditory learning to engaging, visual, multimodal, and hands-on methods” to meet the evolving learning interests of Gen Alpha (McCrindle Research, 2025; McCrindle & Fell, 2020, p. 12).

Economic/Labor Market Conditions. Deloitte Insights noted that digital disruption is affecting every major industry and that workplaces need young, strong leaders who are agile and “digital-ready” (Roy, et al., 2017, p. 1). The authors also noted that leaders “must understand how to build and lead teams; keep people connected and engaged and drive a culture of innovation, learning, and continuous improvement” (Roy et al., 2017, p.1). Universities will be preparing incoming generations to face those conditions and should showcase the value of strong experiential career preparation and workforce-relevant skills (OECD, 2026; Ziatdinov & Cilliers, 2021).

4. Process: Institutional Strategies & Educational Practices

To attract, engage, retain, and prepare future generations amid changing demographic, technological, economic, workforce, and societal conditions, higher education institutions must adopt strategies that align with student expectations and employer needs while remaining within the framework of educational standards. The strategies described in the following sections have been implemented at the authors’ institution and offer tactics universities can adopt to respond to the conditions identified in the Input component of the IPO model.

4.1 Attract: Recruitment & Awareness Strategies

As students increasingly question the value of traditional higher education, institutions must engage with potential learners earlier and more intentionally. Gen Alpha students will enter college with heightened expectations regarding personalization, relevance, technology integration, and career preparation (Ziatdinov & Cilliers, 2021). Thus, colleges and universities should focus on increasing

career-path awareness, providing early guidance, and building relationships through community outreach programs and experiential learning opportunities.

Recruiting. While recruitment is primarily a responsibility of admission offices, faculty are becoming increasingly involved. Faculty at the authors' institution participate in high school visits, hosting prospective students in campus classes, meeting with prospective students and their families during campus visits, participating in career fairs and recruitment events, as well as helping with high school competitions and events at the university. These interactions allow prospective students to interact directly with faculty in their anticipated major. While these activities are focused on attracting high school students, the ACTE study (2023) noted the value of generating excitement for learning and instilling the value of a college education at an even younger age.

Earlier Awareness. Although high school students recognize the need for skill development beyond secondary education, many are still seeking guidance and direction. The ECMC Group 2023 study of 14 to 18 year olds found that of those surveyed, 75% felt pressure to pursue a four-year degree. Approximately 48% desired guidance on their future career path and the various educational opportunities that exist. Respondents indicated that their high schools provided career option information through college fairs (51%), career path exploration programs (40%), classes on career exploration (38%), and interest-identification questionnaires/tests (33%). However, only 13% of the respondents felt that the career path information they had received had fully prepared them to make a decision after graduation (ECMC Group, 2023).

Earlier Guidance. A study by the University of Massachusetts Donahue Institute indicated that 94% of middle school students start making career-related course decisions in eighth grade (Bouvier, 2011). Educational organizations are recognizing the need for earlier guidance and are developing programs and materials (i.e., Association for Middle Level Education (AMLE, n.d.); Britebound, 2025; Pearson, 2026) to help Gen Alpha middle school students (grades 5 – 8) think about their personal interests and align them with future career opportunities. The AMLE encourages middle schools to develop exploratory programs that include career interest inventories, real-world experiences and skills, guest speakers, digital career exploration platforms, career simulations, and community partnerships (AMLE, n.d.) Such programs provide multiple active learning opportunities for post-secondary representative involvement. One such pathway is the Junior Achievement program.

Junior Achievement. Faculty within the authors' college are involved with the local Junior Achievement (JA) program to impact the lives of area youth. Junior Achievement provides volunteers with training and real-world inspired JA curriculum to teach elementary, middle, and high school students financial literacy, entrepreneurship, and work readiness skills (JA Central, n.d.). JA's program and materials provide universities and faculty with a structured approach to meeting and developing relationships with potential college students at multiple levels early in their educational journey.

Camps & Competitions. Summer camps and competitions provide additional opportunities to build connections and plant educational seeds at an early age. The Computer Science and Accounting Departments at the authors' institution have offered multi-day summer camps for regional high school students interested in those fields. A business pitch competition has also been offered for young entrepreneurs to present their ideas before a panel of community leaders. Winners of the event are not only awarded a scholarship to attend the university, but also receive mentorships from regional business owners and educators. Such early outreach efforts build awareness of educational opportunities as well as support connections to the university and the perception of higher education's value to help strengthen university enrollments.

4.2. Engage & Retain

Recruitment alone is not enough. Once students are enrolled, institutions must create impactful educational experiences that align student learning preferences with professional competencies sought by employers.

4.2.1 Technology Supported Learning & Student Support Practices

Gen Alpha students prefer hands-on, active (Pearson, 2026) and digital-first (Maplethorpe, 2025) learning. In a 2025 survey of more than 500 U.S. adolescents, AppsAnywhere found that Gen Alpha

expects hybrid, mobile-first, and digitally-enabled learning experiences. Approximately 93% use at least one educational app and approximately 69% of respondents indicated using AI to support their studies (Maplethorpe, 2025). Respondents have an inclination for “edutainment” and indicated a preference for short-form video such as that found on TikTok and YouTube Shorts, often seeking “quick and entertaining content, even for learning” (Maplethorpe, 2025, p. 16). With such a heavy focus on interacting with technology, this generation is characterized as having short attention spans and are socially isolated (McCrindle & Fell, 2020; Ziatdinov & Cilliers, 2021); two issues that universities must consider.

Short-Form Multimedia Instruction. Because Gen Alphas prefer engaging with short-form visuals, one of the authors has developed numerous instructional videos to supplement students’ learning. The second author utilizes the interactive quizzes and polls of Nearpod to maintain students’ interest in course material. That author has also created instructional materials in CourseArc to provide scaffolded microlearning modules over course material. Such interactive, flexible, technology-enhanced learning allows students to personalize the pace, format, and pathways through which they engage with course content (Maplethorpe, 2025).

Learning Communities. Although Gen Alpha students are highly connected through digital technologies, researchers suggest that younger generations experience social isolation and difficulty forming interpersonal connections (McCrindle & Fell, 2020). For over ten years, the authors’ institution has sponsored residence hall learning communities tailored to student interests. From the introduction of the initial pilot learning community, the housing option has rapidly grown to twelve. These communities allow like-minded students to develop deeper relationships with their peers and faculty in their discipline while taking selected courses together and participating in events tailored to their interests (SEMO Residence Life, n.d.). Second year learning community students can apply to be peer mentors for the next year.

4.2.2 High-Impact Practices for Career Readiness

High-impact educational practices provide a bridge between academic learning and workplace preparation. The American Association of Colleges and Universities (AAC&U) identified ten educational practices that would strengthen learning and skill-building, while promoting engagement and retention (AIFS, 2018, p. 6). Those practices include: capstone course projects, collaborative assignments and projects, common intellectual experiences, diversity/global learning, ePortfolios, First-Year seminars and experiences, internships, learning communities, undergraduate research, and writing-intensive courses (AAC&U, n.d.). These approaches align with employer expectations related to communication, teamwork, and problem solving while also supporting the active learning preferences of Gen Alphas and the professional dispositions of the CS2023 framework.

Active & Experiential Learning. The next generation of students prefer active, hands-on learning that connects academic concepts with real-world applications (ECMC Group, 2023; Maplethorpe, 2025; Pearson, 2026; Ziatdinov & Cilliers, 2021). In a 2023 survey of 7,339 14- to 18-year-olds by the ECMC Group, respondents indicated that their ideal means of learning would be provided by experiential opportunities such as internships or apprenticeships (65%) and hands-on classroom or lab exercises (67%). Such hands-on learning opportunities are considered high-impact practices.

Real-World Projects. An initiative was adopted several years ago at the authors’ institution in which faculty were encouraged to integrate real-world projects and experiences into their coursework. Capstone courses in both computer science and business disciplines incorporate semester long projects in which students work directly with external clients to solve the clients’ problems or business needs. These experiences allow students to apply their technical knowledge while practicing communication, collaboration, project management, and problem solving.

Internships. Internships remain one of the most effective high-impact practices for developing career readiness. Almost every major in the authors’ college requires students to complete an internship as part of their academic curriculum. These experiences provide students with invaluable opportunities to apply classroom knowledge in professional settings, gain workplace experience, and build professional networks.

5. Output: Career-Ready Graduates & Relationship Development

The Output component of the modified IPO framework focuses on the outcomes generated through the effective implementation of high-impact educational practices. These outcomes extend beyond student learning to include strengthened institutional partnerships and improved workforce skill alignment.

5.1 Career Readiness

Producing career-ready graduates is a product of the culmination of effective educational practices, professional skill development, and engaging experiential learning opportunities. Through collaborative experiential learning opportunities, students gain employer-sought skills including communication, teamwork, adaptability, initiative, and problem-solving. These experiences and skills help students more effectively transition into professional careers and create connections with potential employers.

5.2 Relationship Development

While internships are impactful to students, they are also beneficial to faculty and programs as well as employers. Such interactions help institutions ensure curricula remain aligned with evolving workforce expectations as well as develop lasting mutually beneficial relationships. Boards, panels and guest executives also serve as a means of building relationships with employers.

Advisory Boards are also a resource for providing critical connections for aligning academic programs with workforce needs. Each major in the authors' college maintains an advisory board consisting of alums and representatives from major employers of our graduates. This board meets on a regular basis to provide guidance and insights into industry trends, curriculum enhancements, and job opportunities. These boards also often serve as important resources for internships, project sponsors, guest speakers, and competition judges.

Competition Judging Panels serve three beneficial purposes. Students interact with industry professionals to gain a better understanding of professional expectations and obtain constructive feedback. Employers gain insights into emerging talent and educational practices. Faculty are better able to develop industry relationships to help ensure that student learning experiences remain aligned with workforce needs. The authors' institution has used panels composed of advisory board representatives, industry experts from the community, and alumni to judge elevator pitch competitions and industry-focused projects.

Executives in Residence is another means for infusing career-ready skills into the classroom. These industry experts strengthen relationships with the business community, enhance curriculum relevance, and create opportunities for internships, experiential learning projects, and job placement partnerships. The authors' institution has hosted multiple Executives-in-Residence on a periodic basis.

Collectively, these outreach activities help faculty to strengthen connections with employers, and community organizations as well as stay abreast of employer needs. It is also important to gather structured feedback regarding those interactive processes and the quality of the employees the institution is graduating.

6. FEEDBACK AND EVALUATION

Important aspects of the modified IPO framework are the relationships created and the continuous feedback and improvement. Because generational expectations and technologies continue to evolve rapidly, colleges and universities should regularly assess the effectiveness of their instructional practices and retention strategies. Feedback from students, employers, and alumni can help institutions identify emerging needs and continuously refine programs and classroom approaches.

Internship Supervisor Survey. Employer evaluations of interns' performance and the internship process are invaluable to a successful program. At the authors' institution, internship supervisors complete an exit survey that evaluates students' technical competencies, communication abilities, teamwork skills, professionalism, and employment readiness (Appendix B). Feedback gathered through these surveys has proven instrumental in enhancing the internship program and informing curricular adjustments to better align course content with employer expectations and workforce needs. For

example, several employers surveyed mentioned that while technical skills were strong, students would benefit from more “soft” skills training. Within the business department a task force was subsequently established to address these issues and make recommendations; the result was a revised professionalism and business communication course.

Internship Student Survey. As part of the internship course, programs often require students to provide feedback throughout the internship experience as well as its completion. The authors’ institution requires both to ensure that the intern has a valuable experience and the program is teaching the appropriate skills. In their survey, students describe their overall internship experience, the skills they used during the internship, the skills they needed, and lessons learned over time.

Alumni Surveys. Alumni provide an important source of longitudinal feedback of program effectiveness and success. Alumni surveys provide information about skill requirements, workplace demands, emerging technologies, and career progression. This information helps institutions evaluate their programs’ effectiveness and provides guidance for program modifications. The authors’ business and computing college has a strong regional, national, and international alumni network. Frequent surveys of these alums keep faculty informed about the critical skills and content needed in the workplace.

Through continuous stakeholder feedback and assessment, programs are better able to provide educational experiences that meet student expectations and employers’ needs.

7. FUTURE RESEARCH

With the societal changes brought about by AI, every component of the modified IPO framework will likely be affected as well. Future research could examine AI’s effect on each of the components including student expectations and learning behaviors, recruitment practices, instructional design, career preparation, changes to high-impact practices, and workforce needs and employer expectations.

As faculty and institutions continue to discover the capabilities and limitations brought by AI, the modified model can be further developed to incorporate AI into supporting each of the proposed strategies. For instance, the Input step of the model could focus on using AI resources to analyze prospect demographics, craft personalized communications based on those demographics, provide assistance with administrative processes, and assist with the onboarding process of new students. The Process step could focus not only on incorporating AI into class activities, but also using AI to enhance and develop new exercises, provide tutorial resources for students, as well as suggest adjustments to restrict inappropriate use of AI on assignments. AI could be incorporated into the Output stage to develop communications to internship participants and employers, help students prepare for certifications and competitions, and provide mock interviews prior to employer visits. As universities continue to face financial challenges, the impact AI can provide in supporting administrative and routine tasks may prove invaluable.

8. CONCLUSION

This paper applied a modified version of McGrath’s (1964) Input-Process-Output framework to examine the current state of the higher education landscape and offer strategies used at the authors’ institution for attracting, retaining, and preparing future generations of students in light of their characteristics and learning preferences. The modified model highlights the interconnected relationships among environmental conditions, educational strategies, and educational process outcomes.

Universities are faced with a challenging future characterized by declining enrollment pools, expanding educational alternatives, rapid advancements in artificial intelligence, and evolving workforce needs and expectations (Grawe, 2018; Lane et al., 2024; Riley, 2025; VandeHei & Allen, 2025). Simultaneously, educators are tasked with providing engaging learning experiences (Maplethorpe, 2025; McCrindle Research, 2025; McCrindle & Fell, 2020; Ziatdinov & Cilliers, 2021) aligned with institutional requirements (Kumar et al., 2024) while meeting employer expectations for a changing workplace (NACE, 2026; Roy et al., 2017). The future success of higher educational institutions depends on their ability to evaluate their environment, develop relationships with both future college applicants and workforce employers to understand expectations and provide value, and continuously adapt to those changing demands.

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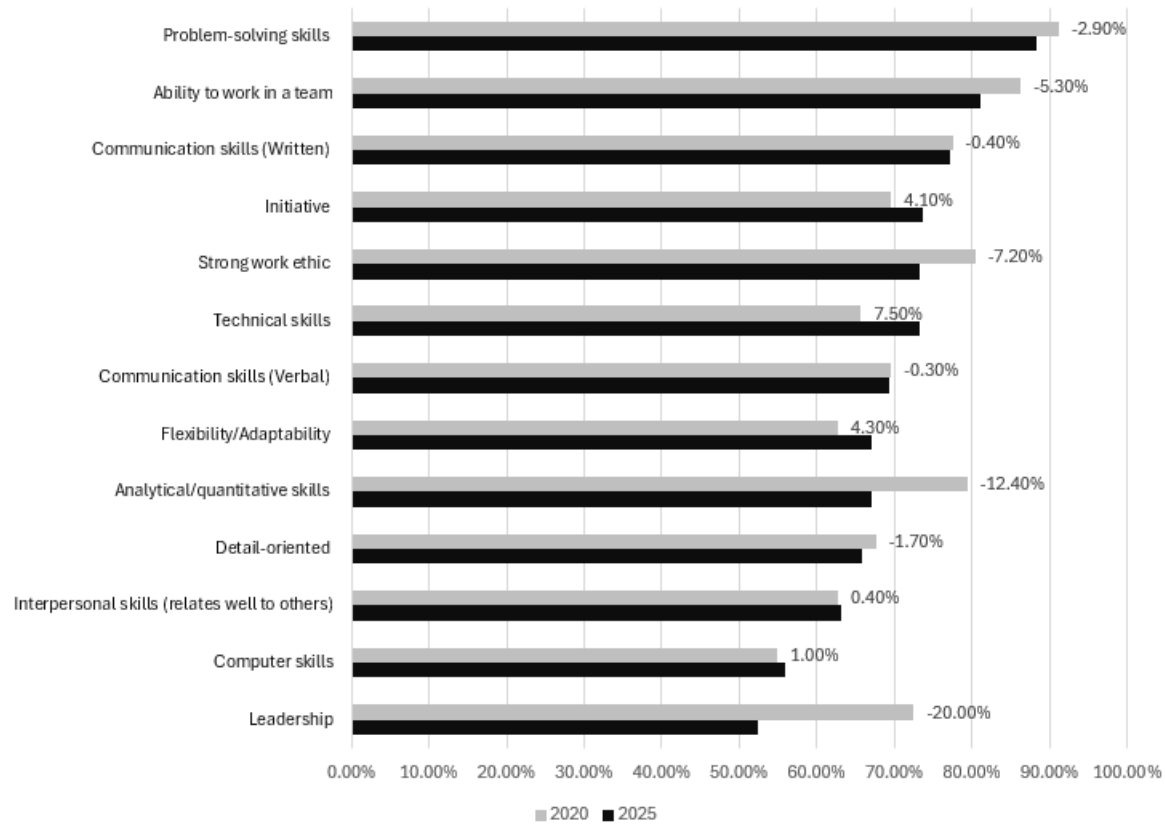
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APPENDIX A

Comparison of Skills Sought by Employers 2020 vs. 2025



Source: NACE, 2019; NACE 2026

APPENDIX B

Supervisor Survey for Internships

INTERN SURVEY

Student Intern Name _____

Employer/Location _____

Work Period _____

Name of Intern Supervisor _____

1. Did your intern display appropriate communications skills?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

2. Did your intern display appropriate problem solving skills?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

3. Did your intern display appropriate teamwork skills?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

4. Did your intern display appropriate leadership skills?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

5. Did your intern display appropriate computer applications skills?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

6. Did your intern display an understanding of general current business issues or questions affecting your industry or area of business?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

7. Did your intern display a basic understanding of accounting?

1	2	3	4	5	6	7	
Not at			Somewhat			A Great	NA
All						Deal	Not
							Applicable

8. Did you intern display a basic understanding of economics?

1	2	3	4	5	6	7	NA
Not at			Somewhat			A Great	Not
All						Deal	Applicable

9. Did your intern display a basic understanding of finance?

1	2	3	4	5	6	7	NA
Not at			Somewhat			A Great	Not
All						Deal	Applicable

10. Did your intern display a basic understanding of management?

1	2	3	4	5	6	7	NA
Not at			Somewhat			A Great	Not
All						Deal	Applicable

11. Did your intern display a basic understanding of marketing?

1	2	3	4	5	6	7	NA
Not at			Somewhat			A Great	Not
All						Deal	Applicable

12. Did your intern display a basic understanding of office systems?

	1	2	3	4	5	6	7	NA
	Not at			Somewhat			A Great	Not
	All						Deal	Applicable

13. Overall, how would you rate the preparation of your intern for his/her internship?

1	2	3	4	5	6	7	NA
Very Weak		Satisfactory				A Great	Not
						Deal	Applicable

14. In regard to question #13, what could we do to improve the preparation of our students to serve as an intern for your organization?

15. Assume an entry-level professional position opens up in your organization next month. Based on your experience(s) with business interns, would you consider hiring a recent business graduate from Southeast Missouri State University? _____Yes _____No If you answered no, what could we do so that you would consider one of our graduates for an entry-level professional position?

_____ Internship Supervisor Signature

_____ Student Intern Signature