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Work-In-Progress: Advancing Success Beyond the Classroom: Creating a Model for Innovation and Entrepreneurship

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Abstract

In today's evolving higher education landscape, providing meaningful experiential learning opportunities while ensuring affordability, return on investment, and workforce alignment is essential. In 2023, a two-year college within a large southeastern public research university received a three-year, $1.5 million grant from its University System and Microsoft Corporation to expand scholarships, internships, and high-demand academic pathways. Serving over 18,000 students, the college is a leading access point to higher education, ranks among the top in dual enrollment and freshman education, and transfers more students than any other System institution. Its student body includes 2,100 international students from 159 countries; 28% are first-generation, 57% Pell-eligible, and 59% from populations underrepresented in STEM.

Students complete the first two years of engineering coursework at the college, earning an A.S. degree or transferring to a four-year program. The engineering pathway, which is one of more than 30 academic pathways offered at the college, currently serves approximately 700 students and provides a primary framework for integrating experiential learning through entrepreneurship, with early data showing strong participation.

This paper introduces Georgia State University's Perimeter College Hub for Innovation and Entrepreneurship, a model that integrates learning, co-curricular programs, and cross-campus collaboration to enhance career readiness. Aligned with the university's Blueprint to 2033 strategic plan, the Hub fosters innovation while embedding career development into the student experience. As the first initiative of its kind at Perimeter College, the Hub connects classroom knowledge with real-world applications through partnerships with industry and government. This work-in-progress pilot presents a scalable model for advancing innovation-focused experiential learning in engineering education, especially within two-year colleges.

Introduction

In *The Role of Community Colleges in Postsecondary Success*, the National Student Clearinghouse Research Center highlights the vital role of community colleges in expanding access to postsecondary education in the United States [1]. Beyond providing high-quality degrees and certificates, these institutions serve as critical transfer pathways, enabling students to continue their education at four-year colleges and universities. During periods of economic uncertainty, community colleges are particularly important, offering affordable education and workforce training options for individuals affected by unemployment, thereby supporting economic mobility and reskilling efforts [1]. Moreover, they provide essential access for underserved and disadvantaged populations, including working adults and students balancing family and employment responsibilities, reducing barriers to postsecondary attainment [1].

Further emphasizing their significance, the Community College Research Center (CCRC), the nation's leading authority on two-year colleges, reports that community colleges enroll approximately 8.6 million students annually, representing nearly 40 percent of all undergraduates, depending on definitional criteria [2]. The influence of these institutions extends well beyond initial enrollment: nearly 49 percent of students who completed a bachelor's degree at a four-year institution between 2008 and 2017 attended a two-year college at some point during the preceding decade [3]. Collectively, these findings underscore the essential role of two-year institutions not only as entry points to higher education but also as foundational contributors to bachelor's degree attainment.

Given this critical role, it is imperative that students at two-year colleges receive high-quality instruction and access to meaningful educational opportunities. One evidence-based approach to supporting student success is the intentional integration of High-Impact Practices (HIPs) into the curriculum. First introduced by George Kuh in 2007 through the Association of American Colleges and Universities (AAC&U), HIPs encompass a set of educational activities shown to produce significant benefits for student learning and engagement [4]. These eleven practices include first-year seminars, common intellectual experiences, learning communities, writing-intensive courses, collaborative projects, undergraduate research, diversity and global learning, service learning, internships, ePortfolios, and capstone courses or projects [4].

Research demonstrates that participation in HIPs is associated with higher grade point averages, improved retention rates, stronger sense of belonging and community connection, and deeper learning and critical thinking skills [5]. These outcomes are especially pronounced among students from historically underserved populations, highlighting HIPs as a strategy for promoting equity and closing achievement gaps [5].

Despite their value, implementing HIPs at two-year colleges can be challenging. Barriers include limited financial and human resources, high faculty teaching loads that constrain capacity for curriculum innovation, varying levels of student academic preparedness, and institutional structures that may not support cross-disciplinary or experiential learning initiatives [6]. These challenges underscore the need for intentional, institution-wide commitment to integrating HIPs across curricula and student experiences.

Recognizing this need, the University System of Georgia, which comprises 26 higher education institutions and serves more than 364,000 students, launched its first systemwide HIPs initiative in 2020. This was followed by institution-level implementation in 2021. Building on this momentum, the college integrated HIPs into its curriculum through the establishment of the Perimeter College Hub for Innovation and Entrepreneurship in 2023. The Hub was designed to provide students with structured opportunities for project-based and collaborative learning, internships, place-based learning, and experiential activities that cultivate an entrepreneurial mindset.

An entrepreneurial mindset is characterized by the ability to recognize opportunities, act decisively, and mobilize resources in uncertain and dynamic environments [7]. The Hub introduces students to these competencies through a structured sequence of experiences, including ideation and validation, business model development, user experience design, venture building and launch, pitching and fundraising, and innovation-focused projects. The Hub was established at Georgia State University's Perimeter College through a three-year, $1.5 million grant from the University System of Georgia and Microsoft Corporation, with additional financial support provided by Perimeter College. This collaboration reflects a strategic investment in experiential learning, workforce preparation, and student success.

The next section introduces the Hub's organizational structure, the conceptual framework, and provides an overview of two central themes related to student programming and engagement which include professional exposure and network building and developing an entrepreneurial mindset through innovation challenges. While the Hub also addresses career readiness through internship and research experiences, this Work-in-Progress focuses on these two central themes and shares preliminary data.

The Hub for Innovation and Entrepreneurship

Organizational Structure

The Hub for Innovation and Entrepreneurship was launched in 2024 with a mission to prepare students for local and global workforce success while fostering excellence in innovation and entrepreneurship. The PI serves as executive officer, providing strategic vision and oversight of budget and administration, while the Co-PI manages daily operations and program planning. Two faculty associates lead co-curricular programs: one in entrepreneurship and workforce development and one in STEM workforce development, including internships, externships, and research experiences. Additional staff support daily management and program expansion.

Professional Exposure and Network Building Through Conference Travel and Field Experiences

The Hub intentionally prioritized professional exposure as a means to broaden students' awareness of STEM careers and innovation-driven pathways. During the reporting period, the Hub supported travel for over 40 students to national conferences hosted by the Society of Women Engineers (SWE) and the National Society of Black Engineers (NSBE), representing a diverse cross-section of STEM disciplines. Students reported meaningful professional and personal growth from these experiences. One attendee of the 2024 NSBE conference shared, "I was presented with an unexpected opportunity of an onsite interview with Schneider Electric, where I was offered a Supply Chain Planning Internship for the Summer of 2024!" Another reflected, "I really had a great time at NSBE. I went with an amazing team and got to meet several students from other universities. These companies boosted my confidence and gave me a perspective on what to look forward to in my future and what goals to achieve." A third student

described participation in the Boeing Flight Competition, noting, “We made a solid plane that flew past our feet, however, not enough to win the competition. But the challenge was very fun, and I enjoyed working with my team. I appreciate having this opportunity and I’m glad to say I’ve learned many things from this experience.” Similarly, a student attending the 2024 SWE conference observed, “The few days that I spent at the Society of Women Engineers Conference in Chicago boosted my confidence and narrowed my professional focus.”

These experiences provided students with access to professional networks, industry panels, technical workshops, graduate school forums, and employer-led recruitment events, opportunities often limited for community college students due to financial or logistical constraints. They also fostered students’ confidence, teamwork, and clarity in their career direction.

In addition to conference participation, the Hub coordinated a series of field trips to innovation hubs, industry partners, and research-oriented organizations. These site visits were designed to complement conference learning by offering contextualized exposure to workplace environments and applied innovation ecosystems. During the reporting period, over 30 industry partnerships were established. Moreover, approximately 300 students participated in industry technical field trips or campus-based workshops hosted by an industry partner. Collectively, conference travel and field experiences functioned as high-impact practices that supported student engagement, sense of belonging in STEM spaces, and awareness of workforce and career opportunities.

Innovation, Creativity, and Applied Learning Through the Innovation Challenges

Innovation programming at the College integrates local and national challenges to cultivate applied problem-solving and entrepreneurial thinking. The local College Innovation Challenge serves as a central pedagogical strategy, where students work in teams to identify real-world problems, conduct background research, develop feasible solutions, and communicate their ideas through structured pitches. Students receive mentorship from faculty, staff, and external partners, reinforcing iterative design processes, evidence-based problem solving, and interdisciplinary collaboration. Importantly, the local College Innovation Challenge provides an accessible entry point into entrepreneurship for community college students, positioning innovation as an essential skill set applicable across academic disciplines and career pathways. During the reporting period approximately 21 teams participated in the College Innovation Challenge representing approximately 86 students.

Successful teams from the local College Innovation Challenge advanced to the Community College Innovation Challenge (CCIC), a national competition co-sponsored by the National Science Foundation (NSF) and American Association of Community Colleges (AACC) that invites community college students to design STEM-based solutions to pressing societal problems. The College has achieved notable national recognition: in 2024, a team earned First Place for Gorginea Care, a non-invasive cervical cancer screening innovation, and in 2025, a team placed Second for RoyaNest, a low-cost neonatal care device addressing birth asphyxia.

The team that won the 2024 CCIC went on to form a start-up company and submitted a provisional patent application for their self-administered cervical cancer test concept, demonstrating the competition's transformative impact on student entrepreneurship and innovation trajectories. Their experience at the CCIC Innovation Boot Camp, including encouragement from judges and connections with economic development partners boosted confidence and expanded their entrepreneurial skillset, reinforcing the lasting professional and career development benefits of high-impact experiential learning.

These achievements highlight the Hub's emphasis on real-world problem solving, strategic communication, and user-centered design. Participation in these types of experiences reinforces students' ability to translate technical knowledge into actionable solutions and prepares them to engage confidently in professional, interdisciplinary, and entrepreneurial environments.

Figure 1. Hub Conceptual Framework

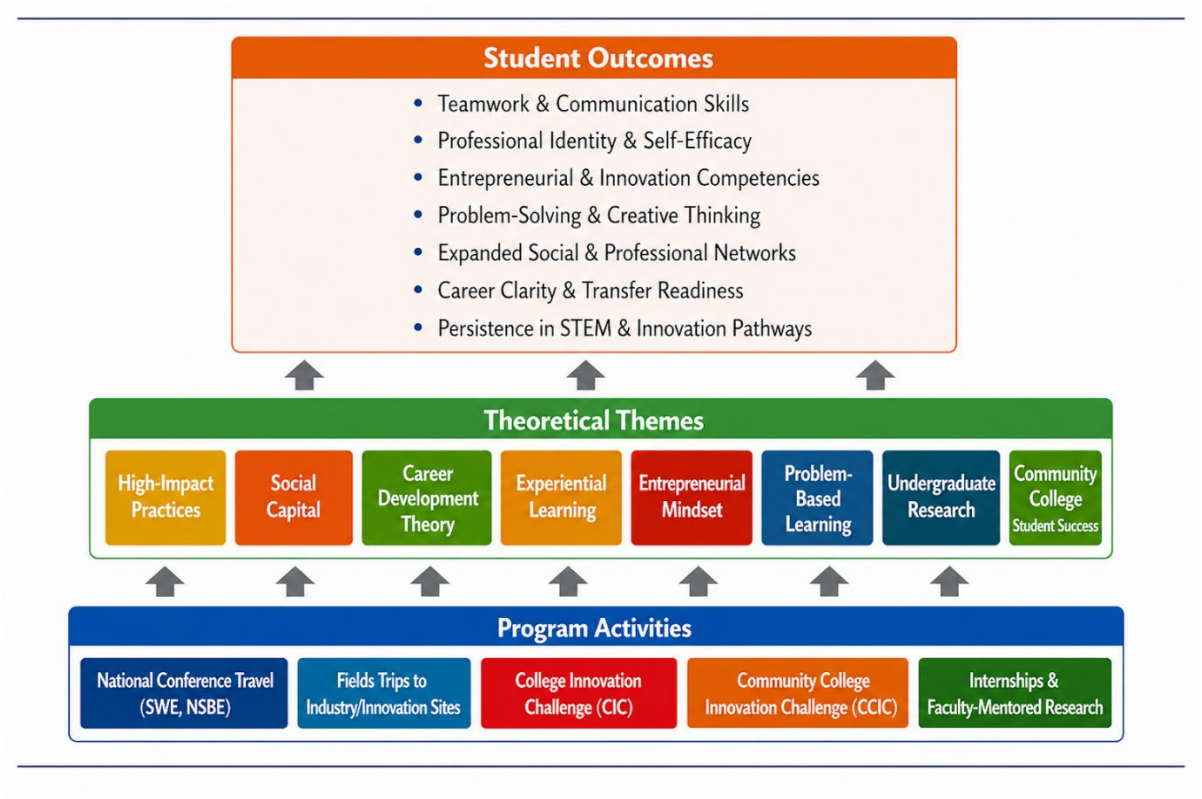

Table 1. Program Activities and Student Engagement

Program Component	Participants	Key Outcomes	Alignment with HIPs & Theory
Conference Travel (SWE, NSBE)	44 students	Expanded networks, internships, professional focus	Social Capital, Career Development, Experiential Learning

Industry Field Trips	300 students	Applied exposure, technical understanding	Service Learning, Community-Based Learning
College Innovation Challenge	86 students	Problem-solving, teamwork, pitching	Entrepreneurial Mindset, Undergraduate Research
Community College Innovation Challenge	2 teams (8 students)	National recognition, patent, start-up formation	Entrepreneurial Mindset, Applied Learning, Career Readiness
Faculty-Mentored Research & Internships	Varies	Technical and professional skill development	Undergraduate Research, Experiential Learning, Career Theory

Concluding Thoughts and Next Steps

The Perimeter College Hub for Innovation and Entrepreneurship has demonstrated the transformative potential of integrating high-impact practices and innovation-focused experiential learning within the community college context. Engaging more than 400 students during its initial cycle, the Hub successfully integrated entrepreneurial mindset development with professional exposure. These efforts produced noteworthy results, including two consecutive national wins at the CCIC and the advancement of student projects into the start-up and patent-filing stages.

As the Hub completes this foundational demonstration phase, it concludes its initial grant cycle having successfully established a fully-vetted, high-impact model for student success. While the project is reaching the end of its current funding period, its impact remains enduring. The Hub has successfully created an institutional blueprint and a wealth of data that prove how structured professional exposure and mentored research can bridge the gap between classroom learning and workforce attainment, particularly for students from historically underrepresented groups in STEM.

In direct alignment with the university's Blueprint to 2033 strategic plan, the legacy of this phase provides a scalable framework that the broader academic community can now leverage to foster innovation and embed career development into the student experience. The established frameworks for mentorship networks, industry partnerships, and intellectual property development serve as ready-to-implement strategies for future institutional or system-wide initiatives. The Hub has fulfilled its primary mission: proving that when provided with access to experiential learning, community college students are prepared to compete and lead at the highest levels of the national innovation ecosystem.

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