TRANSFORMING TECHNICAL EDUCATION: GEORGIA'S eCAMPUS PLATFORM

NASCIO 2022 State IT Recognition Awards

Technical College
System of Georgia

STATE: Georgia

AGENCY: Technical College System of Georgia

AWARD CATEGORY: Digital Services: Government to Citizen

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EXECUTIVE SUMMARY

An innovation by the Technical College System of Georgia (TCSG) is opening a new world of course offerings for the system's more than 130,000 students. With the launch of the eCampus platform, a student in the mountains of northwest Georgia can take a course offered by a TCSG institution near the state's Atlantic coast more than 300 miles away.

Launched in February 2022, eCampus enables students to enroll in online courses offered by any TCSG college, providing access to programs and courses that may not be available at their home technical college. And because eCampus students are considered enrolled at their home college, they still receive the personalized experience and support of on-campus enrollment.

eCampus brought TCSG colleges a new suite of cloud- and mobile-first applications along with potential for engaging with, advising, and supporting students. These enterprise applications standardized the system's technical environment and enable course-sharing among institutions. With enterprise-wide single sign-on, customer relationship management, and seamless access to shared online classrooms, eCampus enhances the student experience, augments student support, and maximizes enrollment opportunities.

In addition to enhancing students' instructional experience, the platform offers an efficient means of addressing staffing needs for unexpected vacancies or hard-to-fill and highly specialized faculty positions. For example, when a faculty member unexpectedly passed away just before the start of the term, a TCSG college was able to avoid disruption by placing students into the same course taught at another college using the eCampus platform.

eCampus also has the ability to rapidly scale high-demand courses to broaden their availability across the state. TCSG quickly stood up its AWS Cloud Specialist program, for example, and enrolled students anywhere in Georgia almost immediately. Previously, students would have to wait months or longer to enroll as their colleges searched for qualified instructors for emerging and specialized fields of study. eCampus brought equity in access to educational opportunities and increased earnings potential, while helping to meet growing workforce demands across the state. The rapid scaling capability has led to new partnerships with the Georgia Department of Education to expand computer science and cybersecurity course offerings.

IDEA

Revisiting and Transforming Modes of Instruction

The closing of TCSG's physical campus due to the onset of the COVID-19 pandemic required TCSG and its institutions to revisit existing instructional models and consider ways to offer more courses and programs through distance learning. Initially, colleges met the demands created by the pandemic by training instructors and encouraging innovation in teaching. These solutions helped for some courses and students - but that was not enough. To truly expand online learning opportunities across the system and leverage technology to meet students' needs, TCSG needed to modernize its technical infrastructure to support student success.

To this end, TCSG applied for and was awarded over $10 million in Governor's Emergency Education Relief (GEER) funding to design, build, and implement the eCampus platform systemwide. The platform uses a shared-services model to expand program and course opportunities by allowing students to enroll in courses at any TCSG institution regardless of students' home college or physical location. The technical infrastructure and enterprise solutions offered by eCampus provide TCSG colleges with a new suite of tools designed to improve the student experience, streamline the recruitment-to-employment pipeline, maximize enrollment opportunities, and share resources across institutions.

eCampus offers an innovative model for expanding access, leveraging instructional capacity, and supporting students in a resource-strained environment. It's an online solution providing high quality, equitable instruction to students systemwide regardless of their physical location.

The program represents a new model for higher education. The ability to quickly leverage high-quality instructors credentialed by home institutions reduces the need for additional adjuncts, allows for rapid scaling of in-demand and leading-edge courses, and provides just-in-time access to instructional resources. Access to additional course offerings can boost enrollment, improve retention, and reduce time-to-completion for students. TCSG can now provide top-tier instruction *statewide* in diverse fields of study, especially for those institutions that face shortages of credentialed faculty. eCampus keeps highly specialized, low enrollment courses viable by allowing students to enroll from across the system.

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For students, eCampus offers new benefits, including access to top-tier educators in more diverse fields, an expanded course catalog and new program offerings, and flexible scheduling and online convenience - all supporting faster program completion. eCampus utilizes its customer relationship management (CRM) tool to streamline access to student resources and increase college staff capabilities. With end-to-end technology-augmented support, eCampus provides an online solution that increases student engagement, leading to increased retention and success.
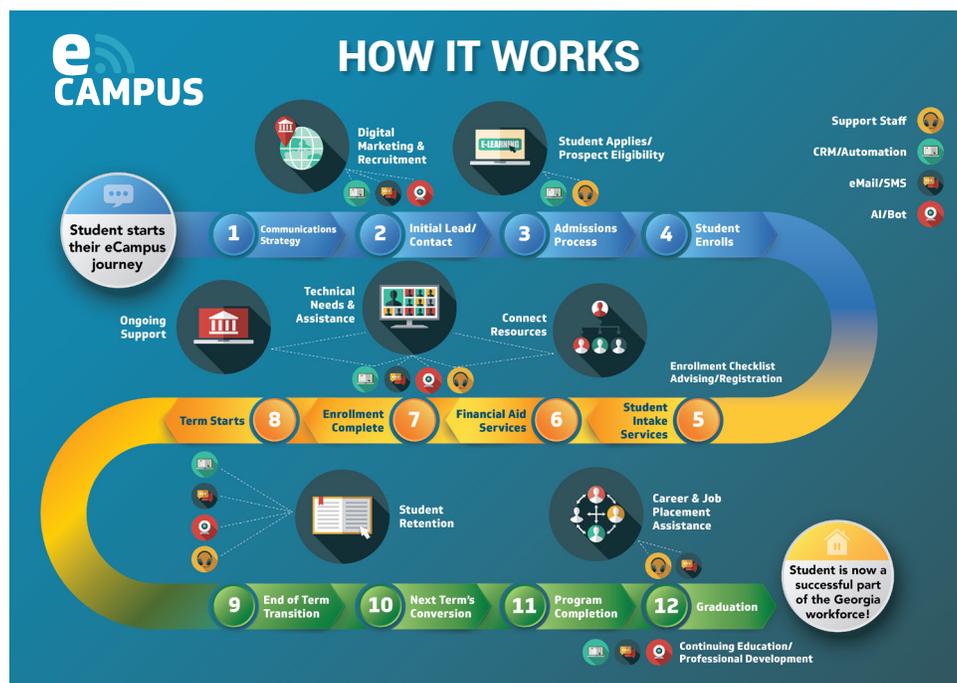
The eCampus shared-services model drives instructional efficiency through responsible fiscal stewardship. Under the guidance of the eCampus Advisory Council (made up of members representing each college), TCSG is able to maintain quality of instruction while expanding access to programs that help meet Georgia's workforce needs.

Making a Difference in Online Education

TCSG's eCampus distinguished itself from similar initiatives from the onset with an innovative and transformative solution for technical education in the 21st century.

By establishing shared online classrooms and integrating college systems, eCampus allows students to seamlessly enroll and participate in online courses taught by instructors at other technical colleges. This unique advantage eliminates the need for students to enroll as "transient students" when taking online courses from other colleges. Additionally, because eCampus instructors' credentials are vetted by the home institution, the home institution can transcript eCampus courses as their own.

IDEA *(continued)*

The TCSG eCampus platform offers a cloud-native, enterprise-wide, shared-services solution for instructional online delivery and addresses nearly all the NASCIO State CIO Top Ten Priorities, including:

#	State CIO Priority	eCampus Solution
2	**Digital Government/ Digital Services**	Expands access to educational opportunities by allowing students to seamlessly enroll and participate in online courses taught by instructors at other technical colleges.
4	**Cloud Services**	Built upon AWS cloud infrastructure, eCampus employs a cloud strategy for eCampus implementation. eCampus cloud applications include Okta IAM for SSO, Amazon Aurora for data warehousing, TargetX for enterprise CRM, and Ellucian/Blackboard for student self-service and online courses. These cloud applications offer scalable and responsive managed services, which allow TCSG to enjoy the security, availability, and performance of state-of-the art applications, without time-consuming administrative tasks such as hardware provisioning, patching, upgrades, and backups.
5	**Legacy Modernization**	Replaces or enhances legacy systems with cloud-native, mobile-first, and open-source solutions to streamline and modernize the user experience and enable the shared-services instructional delivery model.
6	**Identity and Access Management**	Authenticates users and offers the convenience of SSO by creating a single identifier that serves as a common authenticated key across eCampus applications. Okta IAM also improves security and simplifies account lifecycle management.
7	**Workforce**	Optimizes instructional capacity and expands educational opportunities and workforce development statewide. Allows for rapid scaling of new programs to address talent shortages and meet industry needs. Embraces collaborative vendor partnerships to upskill IT/technical staff in cloud computing, scrum and agile management, and Aurora PostgreSQL.
8	**Enterprise Architecture**	Disrupts siloed governance by replacing disparate college systems with enterprise solutions that streamline application management and support, standardize data collection and reporting, and ensure equity in resource allocation across the system.
9	**Data and Information Management**	Improves data management and governance through data standards and integrated and enterprise applications, providing new data insights to improve student outcomes systemwide. A revamped data warehouse will offer enhanced performance, improved interoperability and data integration, access to near real-time data, and point-in-time snapshots to significantly expand capacity for complex business intelligence activities and data-driven decision-making, allowing TCSG to better fulfill agency mission.
10	**Consolidation/ Optimization**	Uses a shared-services model to expand program and course opportunities for students by allowing them to enroll in courses at any TCSG institution regardless of the students' home college or physical location. Enterprise, cloud-based solutions consolidate services and centralize contract management, which drives down licensing and support costs.

Collaboration and Ingenuity for Project Success

To help plan, design, and execute the eCampus project, TCSG assembled key system office staff to lead more than a dozen cross-functional teams. Each team was charged with managing different aspects of the project, including executive leadership and technical decision making; planning and execution; academic and student affairs advisement; programming, infrastructure, and systems management; and data analytics and evaluation. Each team was comprised of technical staff, college subject matter experts, president advisors, and support staff to assist with planning and project management. Teams also received support from strategic development and deployment partners throughout the project.

With GEER funding secured for the project, TCSG sought out leaders in the industry to help build eCampus. TCSG engaged Amazon Web Services (AWS) to set up new cloud servers, modernize the infrastructure, and create the connections needed to securely share data between colleges and with TCSG. In the early stages of the project, TCSG participated in an AWS Digital Innovation Workshop. This process helped the team articulate its vision for eCampus and identify and respond to questions that define how eCampus would function. Following the ideation phase, TCSG engaged AWS and McKinsey to help with project scoping and execution.

Where possible, these partners embraced a collaborative train-the-trainer approach, which allowed TCSG to grow the technical capacity of staff and leverage the most out of partner contracts. AWS/McKinsey mentored TCSG staff on scrum and agile methodologies and cloud development techniques, completing weekly sprints as they worked through various user profiles and journeys - all while working together to set up the cloud infrastructure and develop the new data warehouse.

Other partners, such as Okta and TargetX, performed initial pilot installations and developed run books so TCSG could mirror the installations across the system. Axiom worked closely with the TCSG student information system (SIS) and customer relationship management (CRM) teams to integrate the TargetX online application with the college Banner SIS system. Ellucian invited TCSG to serve as a thought partner to beta its Cross Registration product which TCSG hopes will streamline and automate eCampus course and catalog sharing.

TCSG then identified its solution for single sign-on (SSO) and TCSG selected Okta for Identity Access Management and federated authentication. This solution has allowed students to use their single local user account and login information to seamlessly access administrative tools and online courses offered at any TCSG college from a common dashboard. To optimize student support, TCSG selected TargetX for an enterprise CRM system. TargetX provides end-to-end support for students and equips students and faculty with modernized access to resources as they progress through the entire student lifecycle. TargetX automated communications inform students of important dates and notices, while pre-defined alerts allow staff to provide just-in-time intervention and support for students. Finally, TCSG addressed the complex challenge of creating an enterprise-wide instructional delivery model that would allow students to register for and participate in online courses that may not otherwise be available at their home institution. TCSG worked with AWS and the Blackboard learning management system team to deploy a viable and scalable interim solution.

College and TCSG leadership have also been integral to project design, development, and oversight. By signing a Cooperative Academic Arrangement (CAA), college presidents showed their support and commitment to developing a shared-services instructional platform. Through every phase of the project, college presidents and vice presidents have provided oversight and guidance to ensure project success. Each college also has participating membership on the eCampus Advisory Council and has devoted staff resources to end-user testing throughout project implementation.

TCSG worked closely with the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) to ensure college participation in eCampus was consistent with the accreditation process. The CAA provides the framework for sharing instructors and complying with SACSCOC principles of accreditation. Colleges plan for program expansion by following established policies and procedures.

IMPLEMENTATION *(continued)*

Working together, the project team provided unwavering support for this project, keeping the vision of eCampus alive and project execution on course. Team members learned new skills and assumed new responsibilities to ensure that TCSG and the colleges will be able to support the eCampus platform into the future. Additionally, to ensure the successful transition from project implementation to program operations, TCSG created a new position - eCampus Director.

TCSG opted to implement the project quickly and then improve, enhance, and scale over time. This approach allowed TCSG to offer the first eCampus pilot in fall 2020, only a couple of months after receiving GEER funding. Over the past year and a half, the eCampus team has revamped the infrastructure, deployed enterprise applications, and automated processes to scale the platform to the 22 TCSG colleges systemwide.

IMPACT

Enhancing Education, Professional Development, and State Success

For TCSG, the pandemic brought to light the need to expand online instruction beyond general education and provide technical courses and programs online, and from the onset, every eCampus decision has been based on ensuring success for students. As a result, the eCampus environment adopted cloud- and mobile-first applications that allowed students to apply and register for all courses online as well as access their eCampus classrooms from any location using any device. Additionally, through enterprise wide SSO, customer relationship management, and seamless access to shared online classrooms, eCampus enhances the student experience, augments student support, and maximizes access to enrollment opportunities.

The eCampus platform has also allowed colleges to rethink and reinvent their pedagogy—eCampus not only changes how colleges deliver instruction, but it has also freed them to update and expand curricula, especially in emerging and high-demand fields. Colleges are no longer limited by faculty availability, size of program cohorts, or local job markets. They can rapidly scale up new courses and programs for inclusion in the systemwide catalog. Once a college is approved to offer a program, they add the course to their home catalog and begin enrolling students, which expands educational opportunities via eCampus. Accordingly, colleges are exploring options for supporting online technical instruction, including investments in mixed and virtual reality software solutions.

Looking Ahead at the Future of Online Instruction

TCSG's eCampus has blossomed from a pilot course with three colleges to a fully scaled program with all 22 technical colleges participating. Enrollment has grown from seven students in fall 2020 to 890 students by fall 2021, with more than 1,400 students served during the first full year of implementation. The momentum is continuing: eCampus is targeted to serve approximately 2,500 by the end of the 2022 academic year.

Colleges have shared more than 100 courses over eCampus, expanding instructional capacity and saving on instruction costs.

eCampus has allowed colleges to offer new programming, too. Students can now pursue technical programs that are not available at their home college.

The initial investments in eCampus will be offset by future revenue opportunities. TCSG's eCampus Director will help guide program direction and grow eCampus capacity. TCSG will continue to scale up eCampus courses and programs to expand access, increase options, and offer greater flexibility for students. Additionally, TCSG is currently working to expand eCampus offerings and automated support to students in its adult education and economics professional development courses.

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TCSG plans to leverage eCampus to support other new initiatives and grants aimed at growing the state's talent pipeline in critical high-demand fields. TCSG envisions using more mixed and virtual reality applications to support online technical instruction. New Centers of Excellence will provide regional lab spaces and state-of-the art equipment to supplement online instruction offered through eCampus. The AWS Cloud Solution Specialist course program was the first one native to eCampus. Fire Science has also been added. Colleges are collaborating to add other eCampus programs and hope that iOS Swift and Full Stack Developer will soon be available.

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Investments in eCampus will yield long-term and ongoing benefits to students, the system, and the state. eCampus expands student access to educational opportunities, enhances academic support, allows for flexible scheduling, and employs a mobile-first user interface for a modernized and streamlined experience. The shared-services model allows colleges to rapidly and efficiently scale up programs for statewide enrollment, making colleges nimbler and more responsive to industry needs. Colleges can leverage eCampus programs to address state talent pool shortages by collaborating with industry partners to develop training pathways that lead directly to careers in the field.

TCSG expects that eCampus will help the system attract and retain more students, boost enrollment and, in turn, increase revenue. Further, the shared-services instructional model allows colleges to optimize instructional capacity and reduce per-student instructional costs. The collaborative nature of vendor contracts has allowed TCSG to grow the technical capacity of its staff and leverage the most out of initial investments. And the ability to rapidly scale new programs to address industry workforce needs will attract new companies to the state, bringing with them new jobs and opportunities for private investment and growth, keeping Georgia the number one state in the nation in which to do business.*

Georgia has been designated the "top state for doing business" for the eighth year in a row by Area Development, the nation's leading corporate site selection magazine.