A Strategic Leader for Student Success: An Argument for the Chief Academic Technology Officer

Academic technology is changing. Instruction is becoming more of a team sport: instructional faculty want support from professionals who are fully versed in technology, video production, disciplinary content, and the evidence-based pedagogical practices documented in the scholarship of teaching and learning. Active learning classrooms and faculty development efforts can help increase passing grades, learning, comprehension, and content retention for all students—and disproportionately so for students from underrepresented groups.\(^1\) The explosion of new academic technology facilities (e.g., innovation labs, makerspaces, data-visualization labs, and studio classrooms with learning glass or light boards), as well as third-party services (e.g., educational video-streaming services, applications that can be integrated into the LMS, and systems that offer API access to data), demand the oversight and management of knowledgeable academic technology staff.

These changes in academic technology are potential solutions to improving student success. Data analytics, early warning, intervention, and advising systems promise to ameliorate DFW (D/F/Withdrawal) rates and attrition. Course planning software for administrators and for students can help identify and resolve course sequencing or scheduling issues, shorten curricular pathways, and increase access to gateway courses—all of which should contribute to improved time-to-degree and graduation rates. The fusion of data management, data visualization, research computing, and digital scholarship with digital pedagogy prepares students intellectually, technologically, and practically. Offering hands-on experience in cutting-edge technology could be the differentiating factor in post-graduation job searches.

At many institutions, the evolution of online education—from adult education to MOOCs to hybrid and exclusively online mainstream degree programs—brings together the work of extension and distance education units with courses for matriculated students. To support accessibility efforts that increase inclusivity and equitable access for all students, we need technical expertise embedded whenever and wherever we create instructional and scholarly content. College affordability initiatives such as the adoption of open educational resources (OER) require digital publishing platforms and secure and collaborative ancillary materials platforms, as well as expertise in technology, security, academic publishing, and copyright. Legislation and a national spotlight on affordability only add to the pressure to ramp up academic technology infrastructure and services in support of student success.

All these developments in academic technology demand an institutional academic technology strategy—one that, arguably, a Chief Academic Technology Officer (CATO) can best articulate, socialize, and invest in. Over a decade ago, Michael J. Albright and John Nworie advocated for the establishment of “a senior academic technology officer to serve as a visionary, leader, director, planner, facilitator, collaborator, catalyst, advocate, change manager, and evangelist to coordinate all applications of instructional technology in meeting the institution’s academic goals.” Ten years later, the Big Ten Academic Alliance (BTAA) Learning Technology Leadership (LTL) group recognized the emergence of these roles as uniquely positioned at “the intersection of learning and technology.” Simultaneously, the Center for Higher Education Chief Information Officer Studies (CHECS) released its inaugural CATO survey, reporting that the portfolio of the CATO includes, predictably, hardware- and software-based facilities and platforms such as the LMS, classrooms, media services, enterprise academic software, research computing, labs, and help desks. In addition, CATO portfolios are branching out to include other specializations such as online/distance education, teaching centers, and libraries, along with people-intensive services such as instructional design and faculty development, all of which require fluency with the academic culture and a pedagogical formation.

The CHECS survey delved into the demographics, pipeline, reporting structure, and aspirations of CATOs. Of the respondents to the CATO survey, 44% identified as female, compared with 24% of CIOs and 30% of higher education presidents. While CIOs out-earn CATOs by approximately $20,000, female CATOs earned an average of $10,000 more than their male counterparts. When asked about their career aspirations, CATOs represent an incredibly stable workforce: 51% want to remain in their current position or serve as a CATO at another institution.\(^2\)

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Many CATOs are internal hires, offering a deep understanding of institutional culture. Comparing data from the CATO survey and the CHECS CIO survey shows that both CATOs and CIOs have spent about fifteen years in higher education information technology. Interestingly, CIOs have spent about seven years in IT departments outside of higher education, while CATOs report roughly the same amount of time within higher education but outside of information technology. Finally, 95% of CATOs hold advanced degrees (54% master’s degrees, 41% doctoral degrees), compared with 81% of CIOs and 70% of CISOs (chief information security officers). Of these degrees earned by CATOs, 29% are in education, 20% in technology, and 12% in the humanities.

These datapoints ask more questions than they answer, but they are questions worth further exploration. Over the fifteen years of CHECS research reports, the majority of CIOs indicated that their ideal reporting relationship was to the president/CEO; in reality, only 34% of CIOs report to the CEO, and another 34% report to the CFO. Only 8% of CIOs stated that reporting to the provost was ideal, whereas 46% of CATOs indicated that their ideal reporting relationship was to the provost or chief academic officer. So if the CATO is more closely aligned with the provost’s portfolio, are we seeing the emergence of a new “table” where academic decisions should be made? Who else should be sitting at this table? Research, teaching and learning, libraries, the registrar, academic affairs, student success, graduate schools, and the academic senate all have unique contributions to make to a new kind of partnership critical to student success.

We do not advocate for any particular reporting structure: no one size will fit all. On the other hand, we do argue for the establishment of a CATO to provide expert insight and direction to a changing academic technology landscape. Reflecting on the emergence of C-level positions—first CIOs, then CISOs, and more recently, CPOs (chief privacy officers)—we posit that the “chief” title is indicative of a level of complexity in operations and a need for strategic investment. The proliferation of CIO positions followed the explosion of the World Wide Web and the emergence of multi-million-dollar investments in networking and administrative systems. Higher education required a CIO to manage these investments on behalf of the institution. The rapid growth and risk of cybersecurity incidents demand the creation of CISO positions. CPOs—both in higher education and in industry—are tasked with complying with and managing the associated risk of the increasingly complex legal and technical landscape.

The educational technology industry has grown up quietly in the shadows of cybersecurity and has emerged as a distinct technology sector in its own right. We are familiar with the LMS and digital publishing markets, but the ed tech market also comprises small and medium-sized companies whose innovative practices challenge us to rethink our policies, traditions, and practices. It is time to establish the CATO position—an officer with a deep understanding of academic culture and a collaborative approach—to help meet the research, scholarly, and instructional needs of faculty and students while working closely with CIOs, CISOs, CPOs, and the institutions to ensure privacy, security, and accessibility.

The role of the CATO is to “provide strategic leadership and direction for academic technology applications, initiatives, and support services across the broad spectrum of instructional technology functions; provide leadership in planning and policy related to the broad spectrum of instructional technology functions; provide leadership in planning and policy related to the broad spectrum of instructional technology functions; provide leadership in planning and policy related to the broad spectrum of instructional technology functions; provide leadership in planning and policy related to the broad spectrum of instructional technology functions.” The CATO solves academic, research, curricular, and pedagogical problems—at scale—through the strategic application of technology.

The goal of creating the CATO position—and defining a career path for academic technology professionals—is about developing a structural framework for deep collaborations among academic campus partners to support the strategic role of academic technology in the research and instructional mission. It is about advocating for the future of higher education: what these positions and partnerships can accomplish on our campuses and nationwide; how we can preserve the core research and instructional mission; and how we can lead and significantly improve student success.

Notes
5. Ibid.