

IT: A STRATEGIC STUDENT SUCCESS PARTNER IN DESIGN, IMPLEMENTATION, AND ASSESSMENT

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As higher education institutions continue to adapt and improve their student success models, perhaps we should check to make sure that we are not forgetting, or failing to maximize the potential of, one critical student success partner. It is sometimes easy for us in education to forget that information technology (IT) is too often the forgotten partner in student success efforts. EDUCAUSE's 2017 Top 10 IT issues ranked strategic leadership number 4, noting the misconception that "institutional strategy is separable from IT strategy" and that "burying the IT department or casting it as purely operational" is a risk (Boyhun, 2017). "This will limit the value the institution can get from information technology and limit the institution's ability to achieve its strategic objectives," Boyhun (2017) wrote. During a time when the landscape of higher education is changing, a sharper focus has been put on student success and the reliance of data for everything from state and federal reporting and internal decision making to data analytics (Boyhun, 2017). It is important that IT leadership is at the cabinet table to support and collaborate with institutional leadership on student success initiatives. With the shifting roles that are playing in student success models, there is the potential for IT, as

a student success partner, to play a more significant role in student success models (Bowers, 2015).

Higher education is undergoing a great transformation. From a challenge issued by President Obama for America to have the highest proportion of college graduates in the world (Cook & Hartle, 2011) to an increased focus on student retention, to calls for a clearer definition of student success and improved methods to measure postsecondary success, higher education is changing (Gilchrist, 2011). In addition, higher education is facing a growing number of critics both on and off campuses. The value of higher education itself is in question. Financial challenges abound through increasing costs and cuts in public funding. Public scrutiny from legislators has increased with state and federal mandates and greater calls for accountability (Wildavsky, 2016). Outside influences, represented by entities such as the Gates Foundation and Achieving the Dream have jumped into the fray. The Gates Foundation initiated the "Completion by Design" project, an effort to double the number of low-income adults who earn a postsecondary credential (Pennington & Milliron, 2010). A current Lumina Foundation goal is to increase the proportion of Americans with a

high-quality degree, certificate, and other credentials to 60% of the American population by the year 2025 (Lumina Foundation, 2009). This would be a significant increase from the 45.3% postsecondary attainment level quoted in a 2016 Lumina report (Weathers, 2016). Four-year institutions can define student success based on graduation rates, and community colleges can add certificate completion, transfer, and success in coursework to the definition. Student success runs the gamut from access to persistence and completion.

One positive that is coming from this transformation is the renewed focus on students and their success. In turn, this has allowed institutions to review priorities and initiate change on campuses. It has also been a time of innovation, with an increasing use of technology by faculty, staff and students, and in turn, a reliance on data (Kelly, 2016).

Technology on campus has changed as well, as there has been an increase in the use of mobile devices and social media. Institutions have turned from solely utilizing e-mail contacts and have increased the usage of websites, social media, text messages, and digital advertising (Joly, 2016). More recently, the concept of leveraging analytics to optimize student success has come to the forefront (Milliron, 2016).

From the first days of using the phrase “enrollment management” to today, student success models have continued to evolve. While student services and faculty members have always been identified as integral players in the success of students, additional players have been identified, including the president, trustee boards and students themselves (Pollock, 2012).

With the increased emphasis on student success, now is a great time to gather together campus partners, refocus efforts on assisting students, determine the best use of data, and move forward with new plans. In a sense, change is the new norm (Pollock, 2015a).

Bergquist (2017) stated: “It is critically important to get all hands on deck during this period of great disruption in higher education. At some campuses the CIO is a largely untapped resource to help the institution grow.” It is time to recognize the role of IT, the sometimes forgotten strategic student success partner, in helping the institution to evolve and the need for IT to play a greater role on our campuses to help increase the success of our students. It is an opportunity to

maximize the potential IT can bring to student success models in order to benefit our students. To do so, we should begin with a review of the traditional role of IT on our campuses and how that role is evolving, especially in connection to student success models. In addition, it is time for a call to campus leaders to make sure they include IT in future student success plans, as a full player at the table, from discussions and planning to implementation phases.

The Evolution of IT and the Connection to Student Success

Information technology’s traditional role in higher education might be classified as one of academic and administrative support—for classroom technology and maintaining the college’s various software packages, including those used for admission and student records. In a sense, some could consider IT employees either as “order takers” or “customer focused,” being asked to resolve computer and software problems for faculty, staff, and students and making sure that the “trains run on time.”

In the early 2000s, technology and its connection to the utilization of data was lacking. In *Essentials in Enrollment Management: Cases in the Field*, Black (2004, p. 184) introduced the major strategies of enrollment management, including marketing, recruitment, financial aid, student services, and retention. He also noted the lack of useful data, and the fact that without data, enrollment management plans could only be tactical, not strategic (Black, 2004).

The emphasis on the need for technology and the connection to the success of students can be noted in the creation of Florida Gulf Coast University as “small and large decisions were made to develop a new university culture that was similar to that of the corporate world, including the use of technology in the learning/teaching process” (Lynch, 2004). The university was designed to integrate technology into every aspect of the educational experience, including interactive podiums, Internet displays, and video broadcasting. Distance learning accounted for nearly half of graduate students (Lynch, 2004).

As higher education evolved, the implementation of student success models began to rise, and technology

became a real game changer. While change has come from such things as improvements in hardware and software, substantial change can be attributed to the growing needs and wants of internal constituents like faculty, staff, and, particularly, students.

New technology allowed for web registration, and institutions began to utilize online orientation, both of which benefited students (Pollock, 2004). For example, institutions such as the University of North Carolina–Greensboro allowed students access to a student services intranet, providing them with calendars, campus locators, answers to most commonly asked questions, directories, access to the student information system, banner, and a web chat (Black, 2004, p. 3). The ability for students to access such information changed the way that student services offices worked with students, and also put more emphasis on students to be able to initiate action through self-serving portals.

As campuses ramped up their use of technology, costs began to soar and the need to tie technology back to student success became more apparent, both to justify the costs and to assist students. In a 2016 *Chronicle of Higher Education* study, college leaders noted that the cost of ensuring that campus technology met institutional needs was expensive. Nearly three-quarters of those leaders responding to the *Chronicle* survey noted their institution had made significant technology purchases in the past three years. At large universities, technology improvement and maintenance was cited as the third-highest budgetary cost increase. The only two bigger impacts on budgets were based on declines in state financial support and rising health care costs (Wildavsky, 2016).

Perhaps even more alarming was Eric Denna's review of a 2002 EDUCAUSE report that noted that a conservative estimate of what had been spent during the previous 10 years on large administration systems exceeded \$5 billion and that most of the projects came in over budget, took longer than planned, or did not deliver the expected results. In addition, it noted that internal forces more than external forces created the largest obstacles to success. These included data issues, cultural resistance to change, and the lack of understanding of software capabilities (Denna, 2015).

As noted in "Big Data in Education" (Pollock, 2015b), educators and administrators now utilize

"student systems (SISs), learning management systems (LMSs), and enrollment and management systems to optimize and streamline classroom, school and campus operations." In addition, many educational institutions have utilized mobile devices, online assessments, digital curricula, education apps, and digital whiteboards. Many of these changes have allowed the capture of "big data." This data can be shared across the campus and link students, educators, and performance together to allow for change and improvement (Pollock, 2015b). With these technological upgrades, institutions must now deploy newer technology systems, techniques, and tools—a serious upgrade of technology support on campuses.

Over the past decade, higher learning institutions were asked to provide numerous data sets to state and local governments documenting institutional effectiveness and to prove progression and success of students. Learning outcomes were identified for courses and programs. Additional measurements included year-to-year retention success, number of admissions applications and financial aid awards, and the number of visits to support services. Other measurements included enrollment head count, student quality and diversity, retention rates, graduation rates and student satisfaction (Pollock, 2012). Colleges, particularly community colleges, need to track various sources of data to prove the success of their students, even attempting to merge data sets across multiple institutions (Bailey, 2005). It is easy to see the connection of the IT area and student success outcomes, if only in the collection of the data itself.

How is this tied to student success models? Data can be used to analyze, track, and predict student success performance, improve graduation and retention rates, adjust teaching strategies for just-in-time interventions, and track achievement and identify at-risk students. It can also improve recruitment and marketing efforts, connect alumni to an institution, improve campus operations and increase efficiency (Reid-Martinez & Mathews, 2015).

Two examples of how data can help track student performance and impact student success can be found in "What Can Education Do With Big Data?" (Reid-Martinez & Mathews, 2015). The first was at Ohio's Sinclair Community College, where data on students

using their garage passes, attending advising appointments, and meeting with campus advisors was analyzed. The resulting data was presented on a dashboard to show which students were struggling and at risk of failing or dropping out. The second example, at Oral Roberts University, showed that a study of data assisted with the creation of an early warning system and created meaningful views for faculty to understand which students were struggling. The result in a single semester was an increase in retention rates from 61% to 75.5%, just by utilizing the data at hand (Reid-Martinez & Mathews, 2015).

However, for every effort to tie technology with newer student success models, there are examples where the connection is still lacking. In “Redesigning America’s Community Colleges: A Clearer Path to Student Success,” Bailey (2015) noted that while work is being done in guided pathways, “technology is recognized as a valuable tool for learning but is leveraged as part of a larger pedagogical tool kit” (Bailey, 2015).

It is interesting to note that faculty and students are driving many of the demands for changes and upgrades to technology systems as their needs diversify and their experiences with technology increase. Grajek (2015) noted that enhanced technology allows institutions to create new revenue and business models, increase innovation and efficiency, manage institutional risk, inform strategy and improve decision making, all the while improving student success (Grajek, 2015).

She also declared “two of the most pressing issues in higher education: how to apply technology to teaching and learning, and how to improve student success” (Grajek, 2015). Again, while gains are being made in the use of IT, there are still challenges to maximizing its effectiveness.

The possibilities for the utilization of technology in higher education seem endless, especially for students. Allen (2016) suggests that technological advances and education can be tied to the ability to deal critically and creatively with reality and that such freedom can transform the world. She states technology can help democratize education, personalize pedagogy, and authorize and equip students to control their own learning, better preparing students for a growing multicultural world (Allen, 2016).

An example of how technology can be tied to student success and spark innovation but also cause concerns over scale can be found at Arizona State University. In a 2016 interview, ASU president Michael M. Crow reflected that he stated in 2012 that the use of analytics was being driven by the objective of student success, but there was a hesitancy to utilize all of the hardware and software available. However, in 2016 the tools had moved so far forward that they had an unbelievable power in changing student outcomes. He said the ability to take this empowering platform of technology can take individual faculty members and even departments and “amp them up” in terms of outcomes (Crow, 2016).

Information Technology and Its Future Role in Student Success

The increased role technology plays on today’s campuses, especially in areas such as data collection, analytics, and predictive modeling, has taken it far beyond a simple support structure. The ability to not only impact student success models but to take leading roles in future success plans requires campus leaders to rethink their IT structures and determine the best ways to maximize IT potential. The ability for IT to be at the forefront of student success models also raises challenges and questions that need to be answered.

Stephen Pelletier sums up the simplistic nature of the future of data on campuses: “With more technology comes more data. With more data comes the need for more technology to make sense of it all. Without experience, insight, and a firm fix on their missions, colleges and universities can get swamped and ultimately paralyzed by the flood of information” (Pelletier, 2016). Does it not make sense then to include the very people that run technology and data collection on campuses as part of the bigger picture, especially when strategizing about future initiatives and their impact on student success? Imagine the possibilities with technology staff working hand-in-hand with others on the campus to better understand what questions need to be answered with data, and what processes need to change with technology to better serve the campus and the students? Some additional soft skills will be needed for IT

staff to perform at this level, and IT structures and job duties and responsibilities will need to change.

As colleges and universities move forward with technology and the utilization of data, it becomes imperative that both the communication of its potential and a stronger understanding of that potential reach all levels of an institution. While “many college and university executives are convinced of data’s value, many institutions are still finding their way in learning how to use data effectively and strategically” (Pelletier, 2016, p. 10). The point can be raised that the very professionals in charge of data and technology can also be leaders in educating those on campuses of the many uses of data systems and data collection. However, those same technology professionals would be more valuable if they were part of the equation from the start, offering them a better understanding of the institution’s vision, mission, and goals and, therefore, allowing them better insight into the wants and needs of the institutions.

Perhaps Koester (2011) summed up the IT role for the future when she wrote: “[I]nformation technology will play a central role in the transformation of higher education, offering unimaginable opportunities and demanding unforeseen responses. IT professionals can and should be at the core of envisioning and shaping the future of our colleges and universities” (Koester, 2011).

It is also important to remember that institutions must be getting the “right data” as opposed to just more “big data.” No longer can data collection be just about education metrics, but rather should be about collecting and analyzing data that has been traditionally missing from higher education. As Busteed (2016) noted, this means collecting data that allows for the voices of the consumers and constituents of higher education. This means tracking expectations, experiences, emotions, and outcomes of not just students but alumni, faculty and staff in order to better understand how institutions of higher education are performing and how they can improve (Busteed, 2016).

Community colleges are expanding focus from access to success. They are also looking beyond their own walls to strengthen their connections with local industries to create a more educated workforce. It will be necessary to track an entirely different type of student, that of the workforce development area. Business needs will have to be evaluated, and students who may

not fit into the traditional “credit-bearing” model will have to be tracked and accounted for in the future (Nicholson, 2016).

As the IT workforce changes, adapts, and retools to address institution’s technology needs and to address the challenges of student success, affordability and accountability, IT leaders have to take on new roles as well. As Grajek (2015) noted, “the leader of the campus information technology and its applications needs to be a good communicator and salesperson for the internal changes needed, as well as have the ability to build teams and manage the broadening array of technologies.”

One example of the successful teaming and leadership of IT in relation to student success can be found at Montgomery County Community College in Pennsylvania. The institution has been ranked among the top community colleges in the country for its use of technology to support and enhance teaching and learning. Working with Achieving the Dream, data was utilized to assist with continuous improvement in the areas of first-year experience, student retention, graduation, and transfer rates. This was accomplished through the IT team working with decision makers to identify unmet data needs in areas such as enrollment management, student performance, institutional research, and ongoing program reviews (Schwartz, 2010).

Another take on successful teaming of resources can be found at the University of Maryland University College (UMUC), where the president determined that analytics could assist with combating increasing competition for students, rising costs, and declining state support. He established a data analytics unit and housed it in the Office of Analytics, Planning, and Technology. A study of student enrollment behaviors noted that students who waited until the last moment to enroll were also at the highest risk of withdrawing or failing a course. This led the university to close enrollment four days prior to the first class and also allowed a grace period for students to withdraw without penalty up to four days after a class began. The results? Undergraduate completion rose by 7 percentage points over four years, while persistence rates increased by 4 percentage points (Young, 2016).

How else can IT connect with and improve student success models? Let’s turn again to Montgomery

County Community College (MCCC) and its focus on improving student access, success, and completion. In 2012, a grant from the Bill and Melinda Gates Foundation allowed MCCC to launch an Integrated Planning and Advising Services initiative. The initiative included an early alert system that allowed faculty to monitor progress and identify at-risk behaviors of students, an educational planning tool that allowed students the ability to map out entire degree or certificate programs, and a student dashboard that allowed students to go to a single source for their financial aid. As a result, the college saw increases in full- and part-time persistence for new and continuing students. In addition, the college experienced an 8% increase in persistence from fall to spring, and a 7% increase from fall to fall (Schwartz, 2016).

Creating a more cohesive campus student success effort that includes IT isn't accomplished without bumps along the way. Bowers (2015) describes the effort to connect student services and IT at the University of Southern California to improve their student success efforts. While key indicators such as persistence, timely graduation, and postgraduation employment or graduate school admission were in place, the ability to marshal forces within multiple departments and manage 25,000 undergraduate students was daunting. Record keeping alone was difficult. A lead IT manager worked with a senior associate registrar and an associate vice president of planning, assessment, and innovation to craft solutions. Challenges included the unfamiliarity with different sets of jargon and acronyms and the difficulty in managing shared ownership of such a large project (Bowers, 2015).

Bowers (2015) recommends having departments get to know each other better before working on large-scale projects, taking steps to have non-IT staff improve their own IT knowledge, communicating the work of various departments with their IT colleagues, and staying informed of work in the IT department. Basically, the more information that is shared between IT and other departments, the better the future outcomes are (Bowers, 2015).

Without question, IT is starting to play a bigger role in student success models, and is also starting to become a bigger player at the table during strategic planning stages. However, more needs to be done.

Recommendations for the Future Role of Information Technology

Information technology should be viewed as being more than just a support mechanism on campuses and become recognized as a full partner in student success planning. To do so, IT staff members need to become experts on student success, not just on their own campuses, but also to understand state and national efforts. They need to better understand the complexities behind the efforts to recruit, retain, and graduate students. IT workers need to understand the “why,” not just the “when and where and how,” and they need to be able to bring ideas to the forefront. IT staff need to champion the capabilities of technology as it relates to the success of students and faculty, becoming constituent relationship managers in the process. IT should become an irreplaceable piece of the puzzle for change, enrollment management, and student success.

In turn, campus leadership should better understand the changing nature of higher education and the new reality of technology, data usage, and the integral role that IT can play in student success. Leadership needs to see the value of having IT at the table and as a resource, not just for change, but as a partner for planning.

Administration might consider recruiting IT leadership that understands the new reality and can interact with administration, staff, and especially faculty, on each area's own terms. Achieving this new role for IT means that campus leadership and faculty must also learn to not just task IT with requests but to take time to work as partners. IT can become a much more robust campus area, proactively working toward common goals that benefit students, rather than an area that waits to be told what to do.

IT has the opportunity to influence faculty to move beyond utilizing IT and data as just a “pedagogical tool” to much more. Opening faculty eyes to possibilities is a new charge. IT can help faculty understand and embrace technology and its possibilities; they can connect faculty's understanding of student's use of, and willingness to learn from, technology. In a sense, they can help change the thinking of the transfer of knowledge. However, change needs to happen on the faculty's terms, not those of the IT department.

Diane Oblinger, president and CEO of EDUCAUSE, declared IT to be a game changer. She stated that for IT to be that game changer, we must consider the experience of learners as well as students, faculty, institutions, and IT professionals in order to co-create. Higher education must focus on more than technology. Collaboratively, IT can provide students with convenience in regard to accessing records and delivering information. It can improve the college experience for students, faculty, and staff alike. It can help provide a better high-quality learning experience. It can provide new means of support for students (Oblinger, 2012). The benefits seem endless.

It is time to make sure that IT is not the forgotten student success partner. It is time to recognize the potential IT has for improving higher education campuses and its limitless roles in student success models. It is time to move forward collaboratively for our students and their futures. Information technology can become transformational technology and institutional technology.

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