How Can I Make Sense of the Technology Landscape?

Module 1.2

Contents

This resource is useful at all titles and departments across an institution, from frontline staff and faculty to senior leadership

COMPLETE COLLEGE AMERICA

The Ada Center

ADVISING SUCCESS NETWORK

Introduction

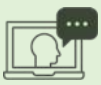
In the last sub-module, we explored how a fictitious student named Natalia could be supported on her education journey through technology tools available today. But how do we realize that vision of Natalia's journey?

The Ada Center research has found over 290 software providers that claim to provide higher education technology solutions that support these types of student and practitioner experiences. These software providers often use buzzy phrases like "transform the student experience with cutting-edge analytics" or "managing the whole student lifecycle with our 360-degree platform." As leaders with busy day jobs, it can be challenging to sort through these marketing claims and make sense of the technology capabilities truly at our disposal.

The best way to begin navigating today's software landscape is to first understand how technology categories and capabilities map to different activities along the student journey. Across the coming pages, we'll revisit the 6 student journey pillars and for each pillar we will articulate:*

- How Technology Can Help
- Implementation Success Requirements
- Considerations for Technology Adoption
- Key Software Product Categories

Refresh on Student Journey Pillars



Engage and Prepare Prospective Students

Managing the admissions and matriculation workflow, through student-facing and staff-facing activities, tools, and resources

Clarify the Path to Student End Goals

Articulating the courses and activities students should take and when to meet labor market and continuing education goals

Help Students Choose and Get on a Path

Providing students with accurate and personalized information and guidance to help them select and enter an academic program

Help Students Stay on Their Path

Ensuring that students get the personalized information, support, and services they need when they need them

Support Student Learning

Helping students and faculty supplement and target traditional instruction to improve learning outcomes

Continually Improve the Student Experience

Investigating patterns of student enrollment, engagement, and progress to pinpoint areas in need of refinement

*An earlier iteration of this framework was compiled in partnership with the Aspen Institute College Excellence Program. The framework has been evolved, simplified, and adapted for the purposes of this curriculum; however, the original can be found here.

Engage and Prepare Prospective Students

How Technology Can Help

- Capture prospective student information, including demographic data, student interests, and possible fields of study to enable personalized recruitment and onboarding
- Alert prospective students about resources to prepare them for higher education
- Strengthen communication and information flow among institution staff, particularly during the critical hand-off of prospective students to enrolled students
- Reduce enrollment hurdles for students by pre-loading application data
- Automate nudging and other reminders to prospective students around key application deadlines and activities
- Analyze data on attributes of prospective students and track a student's contact interactions from inquiry through application and enrollment
- Enable prospective students to sign up to visit campus, meet with staff, faculty, alumni, and/or current students, and attend admissions events

Implementation Success Requirements

- Staff capacity (including through partners) to capture new prospective student data and transition historic data to the new system
- A prioritized list of critical student communications, including language on resources for prospective students, key enrollment milestones, and application processes; segmented by key student affinity groups
- Framework for how and when student communication responsibility will transfer as prospective students become enrolled students
- Staff capacity to maintain and update knowledge bases for each student interaction tool, to ensure that students receive accurate information and resource links
- Training sessions and urgency-building for all individuals tasked with accessing, updating, or using the new system, to ensure that student records, confidentiality, and privacy are maintained with respect to FERPA and other local requirements
- Short-term (6 Months to 1 Year) IT capacity to ensure successful implementation and integration of the new software or features into the existing technology infrastructure
- Ongoing IT capacity to manage and maintain the software and applications, and ensure that regular security patches and other critical release updates are applied

Engage and Prepare Prospective Students

Considerations for Technology Adoption

- Do we need to make changes to our enrollment, admissions, financial aid, or advising structures or processes to effectively utilize this technology?
- Are we culturally and structurally prepared to streamline and centralize prospective student communication?
- How will this new software integrate with our existing Student Information System (SIS), Customer Relationship Management system (CRM), and other key technology systems and applications currently in use?

Key Software Categories

- Application Management System
- Appointment Scheduling Tool
- Chatbot (Admissions Focused Knowledge Base)
- Chatbot (Financial Aid Focused Knowledge Base)
- Prospect Engagement CRM*
- Onboarding Portal
- Texting and Nudging Platform

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?

Clarify the Path to Student End Goals

How Technology Can Help

- Collect and visualize post-graduate student outcomes data disaggregated by major or program to inform pathway design
- Synthesize labor market data, including up-to-date regional employment trends, wages, and degree and certification requirements for job listings in fields related to each of our institution's majors and programs
- Strengthen communication with alumni to collect and display updated information about the jobs and labor markets that programs and majors have historically fed into
- Synthesize transfer requirements, including pulling reports and displaying aggregate data related to top transfer destinations by program, such as average GPA and other relevant up-to-date program requirements
- Develop comprehensive degree planning maps, with illustrative and intuitive visuals that provide clarity around job and transfer opportunities associated with each major and program

Implementation Success Requirements

- Transfer and labor market data from state, clearinghouse, institution, or other data sets, including historic student information and alumni data
- Clearly articulated degree maps, including major or program descriptions and recommended course sequences
- Institution-wide effort to develop recommended major and program maps, including significant data analysis, planning with academic affairs, career planning, and feedback from advising
- Extensive faculty and staff time to ensure thoughtful interpretation of transfer and labor market outcomes
- Ongoing faculty and staff capacity to update and review accuracy of program maps, as well as transfer and labor market data
- Ongoing web developer and UX/UI designer capacity to ensure that information is easy and intuitive to find via website on computers, tablets, and smart devices

Clarify the Path to Student End Goals

Considerations for Technology Adoption

- How (what process) and who (which people or office) will acquire and clean the source data to feed the technology? Will we need to merge information (e.g., transfer requirements and employment data) from multiple systems? If so, what will need to be done to ensure strong integration?
- How can we prepare administrators, faculty, and staff to regularly examine and productively react to student outcomes data, particularly when analyzing disaggregated data that may point to equity gaps?
- What processes will we need to install to keep degree requirements and program information accurate and current, and maintain a single "source of truth"?
- How often will we need to provide updates and refresher training to frontline staff and faculty to ensure they provide correct information to students and are aware of any new updates or features to the software?
- How can we stay ahead of the course and program demand shifts resulting from rapid changes in jobs and professional competencies that will likely continue to occur?

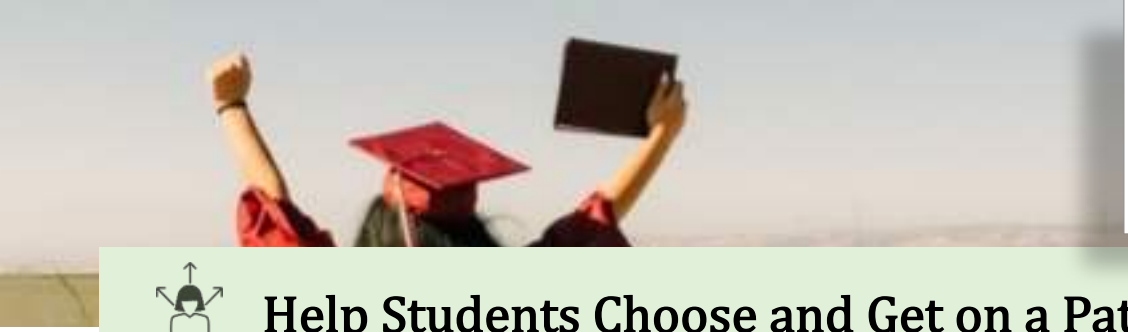
Key Software Categories

- Alumni and Advancement CRM*
- Analytics and Data Dashboards
- Case Management System
- Career Exploration and Planning
- Degree Audit
- Degree Planner
- Transfer Management System

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?



Help Students Choose and Get on a Path

How Technology Can Help

- Convey information to students and advisors about how particular majors and programs of study map to student interests and what comes next (e.g., strong employment and transfer opportunities)
- Connect students with campus resources and activities such as financial counseling services, campus work opportunities, transfer fairs, and career planning
- Capture and monitor student progress through onboarding and early milestones, such as program selection, course registration, financial aid application, major declaration, etc.
- Enable students and their advisors to build—and register for—a customized education plan

Implementation Success Requirements

- Staff, advisor, and faculty capacity to develop consensus and language around key onboarding milestones for different student groups
- Outreach staffing plan such that your institution can intervene with students who fail to complete critical onboarding milestones like registering for wrong-fit courses or not completing financial aid forms
- Training modules and reference documents for all individuals who will be using the new system, including students
- Capacity for staff to enter data around student interactions
- Staff capacity to maintain and update the system's knowledge base to ensure that students receive the correct information and resource links
- Professional development on how and when to customize student education plans; analyze student interactions by cohort, program of study, race, attribute, etc.
- Training and urgency-building for all individuals tasked with accessing, updating, or using the new system, to ensure that student records, confidentiality, and privacy are maintained with respect to FERPA and other local requirements
- Significant Short-term IT capacity (6 months to 1 Year) to ensure successful implementation and integration of new software or features into the existing technology infrastructure
- Additional ongoing IT capacity to manage and maintain the software and applications, and ensure that regular security patches and other critical release updates are applied

Help Students Choose and Get on a Path

Considerations for Technology Adoption

- How will we devise our (formal and informal) support model to enable the effective use of this technology to achieve more equitable student success outcomes?
- How will we check for and correct against biases in pathways selection based on race, ethnicity, income, and other factors that lead to or perpetuate inequities?
- Is our institution prepared for the centralization and streamlining of student interaction and communication that will result from this new resource?
- How will the technology pull in information from prospective student software so that students may review and update – rather than re-enter – demographic data, student interests, and possible fields of study?
- Do we have a clear sense of what the onboarding process should look like for different types of students? How will we leverage the technology to track student onboarding progress?
- How will this new software integrate with our existing registration system, Student Information System (SIS), Customer Relationship Management system (CRM), and other key technology systems and applications currently in use?

Key Software Categories

- Appointment Scheduling Tool and Kiosk
- Case Management System (Holistic Profile, Notes)*
- Chatbot: Student Resources/Support Services Focused Knowledge Base
- Course Scheduler and Registration
- Degree Planner
- Student Information System (SIS)
- Student Portal

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?

Help Students Stay on Their Path

How Technology Can Help

- Provide students with empowering information about progress, deadlines, and requirements critical to their success, and suggested activities that can help them along their path
- Provide advisors, faculty, and administrators with role-relevant information about student academic progress, completion of key milestones, goal/support factors/profile information, and interactions with other faculty and staff
- Help address inequities by ensuring all students are empowered with data to make informed decisions; and interaction data can be examined to identify and resolve inequities in the student experience
- Monitor student progress and ensure that students remain on-track and aligned with the institution's existing requirements and course offerings
- Flag when students are going off-track from their goals, and automatically initiate communication between those students and their support team
- Enable the updating of student education plans, visualizing how changes in degree choice impact student progress
- Strengthen communication among faculty, staff, and advisors

Help Students Stay on Their Path

Implementation Success Requirements

- Prioritized list of key student deadlines, requirements, and suggested activities including (1) which student populations the activity applies to (e.g., veterans, Federal work-study students, international students, etc.), (2) when the deadline or requirement comes due, (3) where students should go to complete the task, (4) what happens if the deadline or requirement is not met
- Development and iteration of a case management framework
- Staff capacity to continually update a list of key student activities, deadlines, and requirements; maintain student-facing system resource information and links
- Clearly defined roles and permissions for access to student data
- A culturally appropriate, holistic care response plan to address complex cases early in the semester when students begin to go off-track
- Regular information (data entry, notes, etc.) from faculty, staff, and advisors who meet with students and provide counsel or make referrals to resources
- Training and urgency-building for all individuals tasked with accessing, updating, or using the new system, to ensure that student records, confidentiality, and privacy are maintained with respect to FERPA and other local requirements
- Short-term IT capacity (1-Year) to ensure successful implementation and integration of new software or features into the existing technology infrastructure
- Additional ongoing IT capacity to manage and maintain the software and applications, and ensure that regular security patches and other critical release updates are applied

Help Students Stay on Their Path

Considerations for Technology Adoption

- How will we devise our (formal and informal) holistic student support model to enable the effective use of this technology?
- What in our support model can be automated through self-service technology and what steps still need to be completed by student support services staff or faculty?
- How will we ensure that faculty and staff enter the student interaction data needed for the system to function?
- How will our knowledge about what activities cause students to stray from their path – and understanding of larger institutional or systemic root causes – inform how we configure and utilize this technology?
- Who should have access to student profiles? To student academic plans? Should students have access to all of the information supplied to their advisors?
- What language should we use to ensure the technology accurately reflects our mission, goals, and brand as an institution (e.g., configuring the system with asset-based language, tailoring supports for initiatives such as Latino male success)

Key Software Categories

- Appointment Scheduling Tool and Kiosk
- Case Management System (Early Alerts, Holistic Profile, Notes, Nudges)*
- Chatbot: Degree Planning and Registration Focused Knowledge Base
- Degree Audit
- Degree Planner
- Student Portal
- Texting and Nudging Platform

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?

Support Student Learning

How Technology Can Help

- Provide students with a system to track upcoming class assignments, deadlines, grades, and faculty feedback
- Connect and engage students with AI-powered online tutors, interactive lessons, tailored curriculum, and other virtual academic support
- Equip faculty with tools for developing and delivering high-quality in-person, online, flipped-classroom, or hybrid courses
- Capture and reflect course-level and department-level student learning outcomes and assess whether they are being met
- Automate or expedite simple, time-consuming tasks to free up staff and faculty to spend more time engaging with and responding to student needs

Implementation Success Requirements

- Ensure each course has a clear syllabus, grading process, assignment descriptions and calendar, and guide-posting protocol
- Ongoing professional development for faculty using the Learning Management System and digital learning technologies
- Capacity to train students, staff, and faculty on how to use digital learning technologies, including digital learning technology orientations for all students
- Clear expectation-setting for faculty about minimum viable digital learning technology usage, backed by data on how technology use impacts student success, especially for students of color and first-generation students
- Ensure students, staff, and faculty are aware of existing digital learning resources
- Short-term IT capacity to ensure successful implementation and integration of new software or features into the existing technology infrastructure
- Additional ongoing IT capacity to manage and maintain the software and applications, and ensure that regular security patches and other critical release updates are applied

Support Student Learning

Considerations for Technology Adoption

- What resources, support, and incentives can we provide to staff and faculty members to promote adoption and use of effective digital learning resources and practices?
- How many technology systems can we reasonably expect staff and faculty members to use?
- How will we merge data on student services with academic data to capture a more complete picture of student learning?
- How do we balance academic freedom in digital course design and tool selection with staff and IT capacity to monitor and manage multiple technology systems in use?

Key Software Categories

- Case Management System (Early Alerts, Holistic Profile, Notes, Nudges)*
- Classroom Management Software
- Digital Courseware
- Learning Management System (LMS)
- Online Tutoring
- Student Portal
- Tutoring Management System
- Virtual Classroom/Virtual Meeting Platform

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?

Continually Improve the Student Experience

How Technology Can Help

- Create a holistic picture of student activities and behaviors, running reports on students disaggregated by key attributes (e.g., race/ethnicity, preparation levels, major or program of study) to continually build knowledge and awareness about potential indicators and interventions correlated with equitable student outcomes
- Record and analyze demand for critical or required courses within recommended majors or paths, identifying bottlenecks and shutouts that inhibit student progress
- Provide possible indicators for gaps in student learning
- Track retention, graduation, labor market outcomes, and transfer-out rates for different student populations

Implementation Success Requirements

- Ensure analytics tools have access to comprehensive, clean, and intelligible data typically stored in the student information system (SIS), learning management system (LMS), case management system, customer relationship management system (CRM), curriculum management/student learning outcomes system, and course scheduling system.
- Leadership capacity to set a data strategy and accompanying cross-institution data governance structure that includes protocols for system use, prioritized reports, and assigned data decision-making
- Leadership capacity to productively engage faculty and staff with student-centered data analysis and reflection
- Significant institutional research capacity to develop system architecture, ensure that quality data captured in the software systems remains accurate, complete, and reproducible, and prioritize reports
- Data owner capacity to ensure data being fed into new systems is clean, current, and intelligible to new applications
- IT capacity to ensure successful implementation and integration of new software or features into the existing technology infrastructure and maintain the system
- Significant ongoing IT/IR capacity to manage and maintain the software and applications, and ensure that regular security patches and other critical release updates are applied

Continually Improve the Student Experience

Considerations for Technology Adoption

- What data and reports do we need to access regularly to track progress toward our top priorities, goals, and student success outcomes?
- Specifically, how (and from what other systems) will an analytics system pull in data to run its reports? What are the costs of this aggregation (staff time and integration)?
- What is the process – and who is responsible – for identifying and updating key terms and data definitions across multiple systems? Do the vendors' data definitions match our needs?
- What resources and training can we offer administrators, faculty, and staff to increase their awareness of the barriers and biases that students may encounter?
- What context and additional information could help them view, interpret, and react to data or "bad" outcomes in a way that is more holistic and constructive?

Key Software Categories

- Analytics and Data Dashboards
- Case Management System*
- Data Management System
- Enterprise Resource Planning (ERP)
- Learning Management System (LMS)
- Student Information System (SIS)
- Transfer Credit Management System
- Transcript Processing

**For more on CRM technology, see www.theadacenter.org/resources.*

Reflect and Follow-up

Prompts: Which of these technologies am I not familiar with? Do we have access to these technology capabilities? Which implementation success requirements might our college be lacking?

Software Categories by Student Journey Pillar

Student Journey Pillar	Key Software Categories
 **Engage and Prepare Prospective Students**	• Application Management System • Appointment Scheduling Tool and Kiosk • Chatbot: Admissions Focused Knowledge Base • Chatbot: Financial Aid Focused Knowledge Base • Prospect Engagement Customer Relationship Management (CRM) • Prospective Student Portal • Texting and Nudging Platform
 **Clarify the Path to Student End Goals**	• Alumni and Advancement CRM • Analytics and Data Dashboards • Case Management System • Career Exploration and Planning • Degree Audit • Degree Planner • Transfer Management System
 **Help Students Choose and Get on a Path**	• Appointment Scheduling Tool and Kiosk • Case Management System (Holistic Profile, Notes) • Chatbot: Student Resources/Support Services Focused Knowledge Base • Course Scheduler and Registration • Degree Planner • Student Information System (SIS) • Student Portal
 **Help Students Stay on Their Path**	• Appointment Scheduling Tool and Kiosk • Case Management System (Early Alerts, Holistic Profile, Notes, Nudges) • Chatbot: Degree Planning and Registration Focused Knowledge Base • Degree Audit • Degree Planner • Student Portal • Texting and Nudging Platform
 **Support Student Learning**	• Case Management System (Early Alerts, Holistic Profile, Notes, Nudges) • Classroom Management Software • Digital Courseware • Learning Management System (LMS) • Tutoring Management System and Online Tutoring • Student Portal • Virtual Classroom/Virtual Meeting Platform
 **Continually Improve the Student Experience**	• Analytics and Data Dashboards • Case Management System • Course Scheduling System • Learning Management System (LMS) • Student Information System (SIS) • Transfer Management System • Transcript Processing

Next Steps

This module is designed to create a shared foundation of student success technology knowledge. By the end of this module, you should have a framework for what effective student success technology can look like, how the software marketplace is organized, and what resources might help you continuously advance your technology knowledge. The next resource is Module 1.3 How Can I Continue Learning?

- [x] *Read and Reflect* Module 1.1 How Can Student Success Technology Advance Institution Goals?
  ⧖ 1 hour
- [x] *Read and Reflect* Module 1.2 How Can I Make Sense of the Technology Landscape?
  ⧖ 2 - 3 hours
- [ ] *Read and Plan* Module 1.3 How Can I Continue Learning?
  ⧖ <1 hour

Module 1.2 Individual Reflection:

1) Consider your reflections throughout this *Read and Reflect*. What are the top 3 takeaways you have with respect to software capabilities, success requirements, adoption considerations, and software categories?

About This Series

This five-part instructional series on Student Success Technology is designed for minority serving institutions (MSIs) and their friends. Taken together, these instructional resources aim to provide practitioners with the tools to establish and maintain a technology ecosystem that effectively supports the institution's broader student success and equity goals. The exercises and resources within these modules are also widely applicable across the higher education field.

This resource was compiled with generous funding from the Bill & Melinda Gates Foundation and was authored by The Ada Center based on six years of insight from The Ada Center's work with hundreds of MSIs and access-focused institutions. The curriculum would not be possible without the thought partnership and support from Complete College America and the Advising Success Network.

For additional curriculum modules, please visit:
www.completecollege.org/navigating-student-success-technology

For questions about this resource, or to explore additional higher education technology research and tools, please visit www.theadacenter.org/resources.

COMPLETE COLLEGE AMERICA

The Ada Center

ADVISING SUCCESS NETWORK