Key Considerations for Choosing Technology Solutions to Support Guided Pathways

A Guide for Colleges

INTRODUCTION

As the guided pathways movement has grown and evolved over the past few years, the number of technology vendors offering "guided pathways solutions" has exploded. The partner organizations involved in the AACC Pathways Project have been working with the 30 AACC pathways colleges and other colleges throughout the country to redesign programs and support services following the guided pathways model. Technology can play a key role in improving student success, and many colleges are considering purchasing or upgrading their systems, platforms, and tools to support guided pathways reforms. Yet, **without attending to essential changes in business processes, organizational roles, and culture, colleges find that technology by itself will not have the desired effect on student outcomes**. Studies conducted by CCRC and other researchers support this ground-level experience.[1]

We encourage colleges to be cautious when vendors or consultants promise "guided pathways in a box" or some technology fix to implementing pathways, and we would like to help ensure that your institution gets the most for your technology investment dollars. This document is designed as a **guide to help colleges plan for purchasing and/or upgrading technology to support guided pathways for students and is aimed at ensuring that your college gets the most for its money**. Ultimately, the guidance provided herein should help college leaders create the foundation for an informed discussion with both internal stakeholders and external vendors.

USER'S GUIDE:

This guide starts with a set of foundational considerations for identifying and implementing technology solutions in support of your college's reform efforts. We then turn to identifying the specific functions that technology can facilitate when implementing each of the four main guided pathways areas of practice. Following, we offer additional considerations related to planning and evaluation of guided pathways. We conclude with a simple planning tool to assist colleges in exploring which functions under each guided pathways area of practice need support at your institution and identifying the appropriate technology to assist the development and delivery of that function.

[1] Karp, M. and Fletcher, J. (2014). *Adopting New Technologies for Student Success: A Readiness Framework*. Community College Research Center, Teachers College, Columbia University.

FOUNDATIONAL TECHNOLOGY CONSIDERATIONS

Our experience with redesign and reform has revealed a set of foundational considerations for technology selection and implementation. Ideally, before purchasing new technology or adapting your existing technology to support guided pathways, we generally recommend the following:

1. Develop an understanding of the specific problems your institution would like technology to help address, *keeping the student educational experience at the center of discussions*
2. Evaluate internal structural and business process changes required for the technology implementation
3. Create a prioritized list of technology system requirements, soliciting input from the end-users of the technology such as students, faculty and student services professionals
4. Identify the individuals who will be responsible for leading the software evaluation, implementation, and integration process
5. Assess what capabilities could be provided by your college's current systems, and what cannot be accomplished using the status quo
6. Conduct a preliminary scan of existing vendors and speak with peers who have recently undergone similar technology implementations

TECHNOLOGY CONSIDERATIONS FOR GUIDED PATHWAYS IMPLEMENTATION

To help colleges develop technology specifications to support guided pathways reforms, we are framing the observations and guidance that follow in this document based on *Guided Pathways: Planning, Implementation, Evaluation*[2]—a one-page graphic developed by the eight national partners on the AACC Pathways Project to visualize the components of guided pathways design and delivery. In the next section, we list functions that technology can facilitate under each of the four main guided pathways areas of practice (found in the green-shaded "Implementation" section on the upper right of the graphic), specifically:

1. Clarify the Paths to Student End Goals
2. Help Students Choose and Get on a Path
3. Help Students Stay on their Path
4. Ensure Students are Learning

For each main guided pathways area of practice, we list potential technology applications and/or examples of the types of capabilities that colleges often want from technology systems as they implement that particular area. This list is not intended to be exhaustive, nor is it intended to be a checklist for the capabilities that any guided pathways technology should provide. It is intended to give colleges ideas of the sorts of capabilities you may want to have and thus help you (a) create specifications for use in responding to vendor solicitations, or (b) communicating with your own IT staff as they upgrade and adapt your systems to support guided pathways.

[2] http://www.aacc.nche.edu/Resources/aaccprograms/pathways/Documents/PathwaysGraphic462017.pdf

POTENTIAL TECHNOLOGY APPLICATIONS

1. CLARIFY THE PATH TO STUDENT END GOALS

- Website clearly shows program maps, including job and transfer opportunities associated with each program.
- Website includes access to up-to-date regional employment trends, wages, and job listings in fields related to each of the college's programs.
- Website includes accurate information on transfer requirements and pathways by major for your students' most common destination institutions.

2. HELP STUDENTS GET ON THE PATH

- College has capacity to capture critical information on students through the application, orientation, and registration process, including student goals, interests, academic history, hours working per week, etc.
- College provides tools for students to explore careers, including interest inventories, matching interests to careers (with descriptions of sample jobs), and matching careers to programs offered by the college.
- College has capability for students and advisors to create a customized full-program educational plan that is based on pre-populated default program maps.

3. HELP STUDENTS STAY ON THEIR PATH

- **Progress Monitoring**: College maintains capability for advisors, faculty, and students to monitor students' progress along their path and have *easy* access to:
    - Requirements fulfilled and those that still need to be completed
    - Configurable interfaces for different users to easily access and contextualize information, including advisors, faculty, deans, department chairs, and students themselves
- **Progress Monitoring by Advisors**: Advisors specifically have resources to track student progress and prompt updates and action when a student is nearing specific milestones, including:
    - Software allowing advisors and other student-facing departments to record notes and actions that can be accessed by relevant departments at the college, including registrar, advisors, faculty, counselors, career services, financial aid, etc.
    - Communication/alerts regarding student progress and status routed automatically to the designated person(s) selected by the college (e.g., division staff, program chairs, advisors, students, coaches, etc.)
- **Early Alert:** Faculty and student support professionals have a system for activating assistance when a student is struggling in a course or falling off path, including:
    - Capability for faculty to issue alerts when students are struggling in class and notify appropriate support staff so that the necessary follow-through support can be deployed
    - Ability to systematically track if follow-through support has been provided

- **Scheduling**: College has the capacity to help keep students on path through solutions that support the registration and scheduling process and the availability of courses so that students can access the classes they need, when they need them. Technology can support:
    - Processes tied to a student's plan so that a student can only register for the courses on their plan for the next semester; software configured so that any deviation from the plan requires advisor approval
    - Alignment with the college's permission structure for lifting of holds/registration blocks
    - Strategic enrollment management, including the capability for deans, program chairs, and others to run reports based on students' plans, in order to predict course and section demand
- **Predictive analytics:** Coupled with human insight, predictive analytics inform the college interventions and early alert processes outlined above. Specifically, by using high school GPA, test scores, first-generation status, income, and other factors determined by the college, technology tool identifies which students are most at-risk and provides appropriate notification to advisors and designated others; colleges should ensure such predictive analytics are in line with ethical guidelines for their use.[3]

4. ENSURE THAT STUDENTS ARE LEARNING

- College has capacity for students and advisors to record and track student participation in learning activities like internships, co-ops, clinical placements, field work, group projects outside of class, service learning, study abroad and other active/applied learning activities.
- College has capacity for tracking and aggregate analysis of student learning outcome assessments by program and/or meta-major SLOs.
- Students are able to create a portfolio of their work and/or demonstrate the knowledge and skills they have mastered to other educational institutions and employers.

TECHNOLOGY CONSIDERATIONS FOR GUIDED PATHWAYS PLANNING, EVALUATION, AND EARLY OUTCOMES ASSESSMENT

In addition to the key technology consideration related to guided pathways implementation outlined above, we also recommend that your college explore a number of other important questions when selecting and purchasing technology, which relate to both planning and evaluation for ongoing improvement (see the blue-shaded "Planning", gold-shaded "Evaluation", and white-circled "Early Outcomes" sections of the on *Guided Pathways: Planning, Implementation, Evaluation* graphic). These additional considerations (outlined on the following page) are designed to raise specific cost, timing, and solution integration issues that might surface during these stages.

[3] https://www.newamerica.org/education-policy/policy-papers/predictive-analytics-higher-education/#

PLANNING

- What are the costs for implementing and maintaining (and upgrading as necessary) the software to our college's specifications, including the costs of training personnel to use the systems effectively?
- Does the technology program/solution come with different features depending on the level our college is able to afford? Which capacities would we not have access to?
- Given that no single technology will likely cover all of the guided pathways-related technology solutions we would like to implement, are we considering multiple software vendors to cover different pieces of this work? If so, have we approached the vendors with questions about integration between different software packages?
- Has the software vendor discussed the length of time it will take to plan, integrate, train users, and take the software live?
- Has the technology vendor discussed the business process reengineering that needs to occur to support planning, integration, and optimal utilization of the software? Are we going to be charged consulting fees for this service? Do we have an ongoing plan to support such fees? If the vendor will not be involved in this process, do we have an internal plan to take on such business process reengineering and training?

EVALUATION:

- Is the technology program/solution compatible with the college's current student information system (e.g., Banner, PeopleSoft, other) for the version of the student information system (SIS) currently in place? Would we need to upgrade our SIS? If so, to what version? How long would this upgrade take?
- Can the integration of the various technology solutions track student cohort progress toward the early outcomes (or key performance indicators on the graphic), such as college credit progression metrics and transfer-level English and math attainment, and behavioral flags such as targeted program participation, education plan status, and advising interventions? Will it allow for disaggregation by gender, ethnicity, age, and part-time/full-time status?

FOR MORE INFORMATION

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PATHWAYS PARTNERS

Guided Pathways Technology Planning Table

INSTRUCTIONS

The following planning table is designed to **help launch your college's consideration of technology related to guided pathways implementation**. For each of the four guided pathways areas of practice, the table asks your college to consider the following key questions:

1. What related technology are we considering adopting and/or upgrading?
2. What are we trying to achieve with this technology? What function do we hope to improve?
3. What are the desired capabilities of this technology?
4. Who will use these capabilities, when, and for what purpose?
5. What are the priority design features users would like to have?

We suggest that this planning exercise be **completed or shepherded by a cross-functional guided pathways steering committee** or similar group tasked with guided pathways reform. It should not be primarily a technology-based group, as the end users of the technology solutions being considered and those leaders on campus tasked with guided pathways reforms are critically important for this planning. Technology expertise should be integrated—especially as compatibility and integration of technology solutions are considered—but the technology should not drive the conversation.

Note: this planning table is **intended to help initiate this conversation**; however, colleges will **need to undergo more in-depth planning that fully explores the adoption, integration, cost, staffing, and training implications** of any new technology and/or revision of existing solutions.

1. CLARIFY PATHS TO STUDENT END GOALS

What related technology are we considering adopting or upgrading?	What are we trying to achieve with this technology? What function do we hope to improve?	What are the desired capabilities of the technology?	Who will use these capabilities, when, and for what purpose?	What are the priority design features users would like to have?

2. HELP STUDENTS CHOOSE AND GET ON A PATH

What related technology are we considering adopting or upgrading?	What are we trying to achieve with this technology? What function do we hope to improve?	What are the desired capabilities of the technology?	Who will use these capabilities, when, and for what purpose?	What are the priority design features users would like to have?

3. HELP STUDENTS STAY ON THEIR PATH

What related technology are we considering adopting or upgrading?	What are we trying to achieve with this technology? What function do we hope to improve?	What are the desired capabilities of the technology?	Who will use these capabilities, when, and for what purpose?	What are the priority design features users would like to have?

4. ENSURE STUDENTS ARE LEARNING

What related technology are we considering adopting or upgrading?	What are we trying to achieve with this technology? What function do we hope to improve?	What are the desired capabilities of the technology?	Who will use these capabilities, when, and for what purpose?	What are the priority design features users would like to have?