



## Next-Generation Advising

*Elevating Practice for Degree Completion and Career Success*

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## Top Lessons from the Study

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### #1 **Improving Curricular and Cocurricular Advising in Support of Student Success.**

Building on the Education Advisory Board's 2009 best-practice study *Hardwiring Student Success*, this study profiles innovative and cost-effective advising strategies that progressive institutions have employed to improve student degree completion and career readiness by better structuring student course and major decisions, tailoring advice, and integrating career and academic advising.

### #2 **Despite Massive Efforts, Slow Progress on Student Success**

Improving degree completion rates is a top priority at most colleges and universities; over the past decade, institutions have added staff, created new services, and restructured resources to increase student success. Though there are hundreds of individual success stories, in the aggregate higher education has made painfully slow progress in improving completion rates. Today the percentage of students who attain their degree within six years of enrolling in a bachelor's program is almost identical to what that figure was 40 years ago: 50 percent. Experts point to many factors that impede student success efforts, such as declining student preparedness, rising financial strain on students and their families, and increasing curricular complexity. Regardless, adding more services and staff has simply not been enough to move the dial on student completion rates.

### #3 **New Urgency to Improve Degree Completion and Job Placement Outcomes**

Increased government focus on degree productivity is escalating the already pronounced pressure on higher education leaders to improve student completion rates and reduce average time-to-degree. Recent government initiatives such as the national "completion agenda" goals and state outcomes-based funding models have added more urgency to the issue of student retention and completion. At the same time, students and families are beginning to consider factors such as time-to-degree and average debt load when they compare college costs, asking more pointed questions about completion rates, alumni involvement, and internships when they visit prospective campuses.

### #4 **Competing on Completion**

As both student tuition dollars and state funding increasingly depend on student success outcomes, and as new types of for-profit and non-profit institutions enter the marketplace, colleges and universities will need to achieve strong outcomes in order to maintain enrollments and funding levels. Graduating more students faster, and placing them in degree-worthy jobs, will be a critical competitive advantage for higher education institutions in the future.

### #5 **Better Advising Critical for Near-Term Student Success Improvement**

There are a host of methods institutions can employ to inflect student success, such as restructuring academic programs, increasing admissions standards, and adding additional programmatic supports for special student populations. Our research focused on academic advising for three reasons:

- Most institutions believe that their current advising system is sub-optimal, with substantial room for improved performance
- Improvements to advising maximize the impact of all existing services
- Provosts have more direct control over academic advising than other factors that impact student success

In some ways, academic advising could be considered a "band-aid" solution that covers up more fundamental issues that inhibit student success. In the long run, institutions will need to address structural problems such as unchecked curriculum expansion; however, in the short term, better advising services can help students more successfully navigate an institution's sometimes Byzantine complexity and make the most of the resources that are already in place to help them succeed.

## #6 Advising Challenges Manifest Differently Across Institutional Types

All of the more than one hundred institutions interviewed for this research acknowledged that they have “an advising problem,” but the specific problems varied significantly by type of institution. Universities with tens of thousands of students face different issues than colleges with hundreds of students. Highly selective institutions face different challenges than institutions that are more access-focused. And institutions that offer hundreds of majors experience different issues than those with dozens of majors.

Institutional Type	Curricular Complexity	Student Preparedness	Typical Advising Challenges
Elite Research Universities	High	High	<ul style="list-style-type: none"> <li>• Encouraging students to take advantage of cocurricular opportunities early in their college experience</li> <li>• Providing students with internships and other opportunities to learn experientially</li> <li>• Supporting sub-populations of students facing success challenges</li> </ul>
Access-Focused Public Institutions	High	Low	<ul style="list-style-type: none"> <li>• Assisting students in selecting courses and majors in which they have both aptitude and interest</li> <li>• Identifying students who are off-track or at risk of completion delays, and intervening accordingly</li> </ul>
Tuition-Dependent Private Institutions	Medium	Medium	<ul style="list-style-type: none"> <li>• Supporting students who do not meet upper-division requirements for their declared major</li> <li>• Providing students with a high-touch advising experience commensurate with their expectations and tuition dollars</li> </ul>
Smaller Liberal Arts Colleges	Low	Medium-High	<ul style="list-style-type: none"> <li>• Ensuring students take advantage of cocurricular experiences and alumni involvement that will enhance their career opportunities</li> <li>• Providing students with a broad education in the liberal arts tradition while also ensuring their career development and readiness</li> <li>• Promoting consistency in faculty advising quality</li> </ul>

## Top Lessons from the Study (continued)

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### #7 No “One Size Fits All” Advising Model

Many of the administrators who we interviewed for this study held out hope that identifying the right advising model or hiring the right number of professional advisors would solve many, if not all, of their advising and student success problems. Our research, however, found that there is no single best advising model; rather, each approach has advantages and disadvantages.

One of the primary factors that defines an advising model is whether it utilizes faculty advisors, professional staff advisors, or both. Below we summarize three approaches to advisor staffing and the type of institution or unit for which the approach typically works best.

#### Faculty-only Model

##### *Key Attributes:*

- Incoming students assigned faculty member at random or according to area of academic interest
- Upon declaring a major, students reassigned a new faculty advisor affiliated with program
- Small centralized advising office staff provides support to faculty advisors (training, guest speakers, information clearinghouse)

##### *Works Best for:*

- Smaller liberal arts institutions, where course and major choices are simpler and part of value proposition is access to faculty
- Colleges with rigid course requirements (e.g. engineering, nursing), because students need less support choosing courses and navigating degree requirements

#### Hand-Off Model (Professional to Faculty Advisor)

##### *Key Attributes*

- All incoming students who have not declared major are assigned professional advisor
- Typically, professional advisors are housed centrally within University College unit or College of Arts & Sciences
- Once students declare major they are assigned to new advisor; this advisor may be faculty or staff member, depending on the students' college or major

##### *Works Best for:*

- Accessed-focused public institutions looking to provide support to undeclared students while containing the cost of professional advisors
- Elite research universities, where curriculum choices are more complex and part of value proposition is access to research faculty

#### Total Intake Model (Highest Cost Option)

##### *Key Attributes*

- All incoming students assigned professional academic advisor from centralized office
- Once students complete a minimum number of credits (usually after the first year) they declare major and are assigned faculty advisor
- Depending on advising resources, students may or may not have access to designated professional advisor, in addition to faculty advisor, all four years

##### *Works Best For*

- Accessed-focused public institutions with resources to provide professional advisor support to all incoming students
- Tuition-dependent private institutions, where on-going, high-touch support from both faculty and staff advisors is part of value proposition

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**#8 No “Magic Number” of Professional Advisors**

A critical variable across all advising models is the number of professional advisors compared to undergraduate students. Some institutions believe that success will come from meeting a certain target for the ratio of students to advisors (the National Academic Advising Association suggests 300 to 1). Few institutions have the resources to maintain that level of investment, and many struggle to even calculate a meaningful ratio, given the different advising models present within institutions. Even those institutions that recognize significant flaws in their current advising model find it very difficult to shift from one model to another. For these reasons, rather than attempting to identify a single optimal model, our research focused on profiling approaches that will support and enhance any model of academic advising.

**#9 Faculty Are Critical, But Only Part of the Solution**

Faculty play a critical role in the advising process at all institutions, and at some institutions they are the only academic advisors. While, at its best, the faculty advising model builds close ties between faculty and students, the model also has some inherent limitations. First, there is a lack of uniformity in advising quality. At any institution, some faculty members will be committed, knowledgeable advisors and others will be quite the opposite. Those students assigned to weaker advisors will receive less helpful guidance, less often. Faculty who are known for being strong advisors often end up advising more students—additional work which is seldom recognized in the tenure and promotion process. Secondly, faculty are not curricular experts, especially outside of their own department. Faculty members often unintentionally provide students with incorrect advice, leading to repeated courses, delayed graduation, or even tuition rebates. Absent significant changes in the faculty incentive structure, the consistency of faculty advisor quality is unlikely to meaningfully improve across campus.

**#9 Regardless of Model, Institutions Face Similar Underlying Advising Problems**

Despite the variety of advising models, the fundamental challenges that academic advising services address are largely the same:

- Students make poorly informed choices (of courses and/or majors) that delay progress towards a degree
- Students do not realize that they are off-track or in need of additional support
- Students postpone career planning until they are close to graduation

This is not to imply that students are to blame for these failures; for the most part, the above challenges are the result of a broken system. Many institutions offer a staggering array of courses and majors with complicated prerequisites and degree paths. Students frequently do not know they are not tracking well toward a degree until they have completed significant amounts of coursework. And the career advice that students receive is typically completely disconnected from the academic advice they are provided.

**#10 Charting a New Path Between Competing Priorities**

While, to some degree, the faults in the existing advising system are the result of the unintended consequences of policies or structures, they also reflect choices by institutions to value one aspect of student success over another. Each institution’s advising challenges are shaped by three fundamental tensions:

- Freedom to explore the curriculum vs. progress towards degree
- Personalized advising vs. standardized approaches
- Liberal arts education vs. professional training

## Top Lessons from the Study (continued)

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### #10 **Charting a New Path Between Competing Priorities** (continued)

Our research finds that these tensions have become unbalanced at many institutions. An emphasis on curricular exploration, for example, has led to a proliferation of courses and majors that now creates confusion and delays in degree progress for many students. A focus on personalized advising has created unsustainable costs while still failing to impact many students. And a desire to keep professional training separate from liberal arts education has left students unprepared for the job market. This is not to say that institutions should abandon their missions and fundamental values, but instead that a shift in an institution's "center of gravity" can improve student success in terms of graduation and job placement.

### #11 **Cost-Effective Approaches to Student Success**

The practices profiled in this report are examples of how progressive institutions have addressed these fundamental challenges. They fall into three categories:

- Structuring student course and major decisions
- Personalizing support for off-track students
- Integrating career and academic advising

### #12 **A Data-Informed Approach to Advising**

In the face of hundreds of thousands of course combinations, tens of thousands of students, and limited advising resources, a number of progressive institutions have begun to leverage the large data sets already present in their student information systems to inform student decisions about courses and majors. While currently in a nascent stage, self-service advising resources that leverage historical data to guide the decisions of current students are likely to become more commonplace in the next five years.

## *Balancing Exploration and Progress to Degree*

### #13 **Meandering Paths to Graduation Common and Costly**

Undergraduate students are often unsure of their goals and overwhelmed by the number of choices of courses and majors. As a result, many students accrue excess credits and take unnecessary time on the way to their degree, adding to their costs and increasing the risk of non-completion. An analysis of transcripts from across a state system shows that a full 20% of students who complete their degrees graduate with more than 150 credits—or over a year of credits beyond typical degree requirements.

### #14 **Late-Stage Major Change or Declaration a Primary Cause of Graduation Inefficiency**

More than half of all undergraduate students will change their major at least once during their academic career. For many students, changing majors is unproblematic, but for those students who change their major or delay in declaring an initial major until after their second year, the result is often slower progress toward degree requirements, necessitating more credits and more semesters to get to degree.

### #15 **Provide Structured Curriculum Paths for Pre-Major Students**

To simplify students' decision-making processes and prevent progress setbacks, some institutions have created a small number of pre-major exploratory tracks for undeclared students. Exploratory clusters, which share a set of common prerequisite courses, make it possible for students to explore the curriculum without risking graduation delays, as any course within a track will count toward degree requirements for a host of affiliated majors.

### #16 **Degree Maps with Mandatory Milestones Promote Degree Completion**

To improve timely graduation, many midsize to large institutions mandate that all departments provide students with clear semester-by-semester guides to degree completion. By requiring students to complete specified courses and attain prescribed minimum grades in conjunction with degree maps, institutions are able to focus limited advising resources on students who have missed milestones and are most in need of attention.

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**#17 Grade of C Not Always Indicator Student is “On Path”**

While most institutions consider students who have achieved a C in a critical course to be on solid academic footing, institutions that have conducted analyses of historical student data have found that, for some critical courses, a C grade instead indicates a student has a weak or uneven grasp of foundational knowledge necessary for them to succeed in higher-level coursework in their major.

**#18 Define Degree Map Milestones by Analyzing Historical Student Data**

Progressive institutions have refined their degree map milestone systems by analyzing historical student data and identifying the courses and course grades that truly indicate students are on the path to success. In some cases, institutions have changed their degree map milestone requirements to reflect the findings of these analyses, mandating that students attain a B or above in particular courses where a C grade is not predictive of success.

**#19 Institutions Can Provide More Course Selection Information to Students through Data Mining**

Accurate course-success algorithms, which predict the course grades of individual students based on the performance of past students with a similar academic history, are enabling some institutions to guide students toward courses where they are more likely to find academic success.

**#20 Accurate Grade Prediction Algorithms Make Data-Based Major Pathing Possible**

With the advent of precise statistical models for predicting students' grades, it will soon be possible for institutions to steer students away from majors where they are likely to encounter academic difficulty. However, data-based course and major pathing is currently a controversial topic in higher education; critics worry that such tools will be used to direct students into easier courses or majors, or will discourage students from pursuing an area of study where they have a strong interest.

**#21 Focus Resources on Getting Students on Clear Path to Degree by the End of Sophomore Year**

Institutional resources are better leveraged when spent on systems and technologies that will maximize the number of students on a degree path for which they have both an aptitude and an interest, and which will help them get on this path by the end of their third semester.

*Breaking the Cost-Customization Compromise*

**#22 At Most Institutions, Providing Highly Personalized Advising Services Is Cost-Prohibitive**

Advising ratios at most institutions are double those recommended by the National Academic Advising Association (NACADA) in at least some colleges or departments. Unfortunately, for many institutions, just bringing advising ratios down to NACADA-recommended levels is a cost-prohibitive proposition.

**#23 Invest in Tailored Advising Services for Priority Student Populations**

Rather than the doubling the number of professional advisors across campus, provosts should invest in tailored strategies for selected student populations. By focusing personalized advising services tactically on populations in need of more intensive support, and tailoring advising approaches to serve the distinct needs of those student populations, institutions can maximize the impact that advising services have on student success.

**#24 Commercial “Success Coaching” Effective but Costly**

Individualized student success coaching services, focused on assisting students with underlying time management problems and personal issues that often cause severe academic difficulties, are proven to increase student retention rates significantly. However, such services can cost more than \$1,000 per student per year.

## Top Lessons from the Study (continued)

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### #25 **Focus Success Coaching Methods on First-Year Students in Academic Difficulty, Leveraging Other Students as Coaches**

To contain costs and impact students with high “turnaround potential,” progressive institutions are training both graduate and undergraduate students to provide one-on-one success coaching to first-year students who are in obvious academic difficulty. By adopting the methods used by commercial providers, but using in-house resources and focusing on a limited student population, institutions can reap many of the benefits of commercial success coaching services without incurring high costs.

### #26 **Students in Limited-Access Majors Often Need a New Path**

Students may enter college confident they will meet upper-division requirements for majors such as nursing or business, but many students do not attain the minimum GPA or other qualifications for majors with restricted capacity. These students are a particular completion risk, as they may perceive they no longer have a reason to attend college if they are unable to pursue their intended major.

### #27 **Offer Specialized, Intensive Advising to Students Transitioning Out of Limited-Access Majors**

Students who fail to meet upper-division requirements benefit from longer, more specialized advising conversations. Instead of receiving guidance from a faculty advisor in their original major, these students are best served by a specialized professional advisor who has the depth of experience and knowledge of curriculum options to ensure students get on a feasible new path as soon as possible, sacrificing minimal credits toward degree requirements in the process.

### #28 **Attrition Out of STEM Majors Common After Intro Courses**

While some students may stay in a limited-access major too long before transitioning to a new major, students considering a major in STEM will often give up prematurely, after struggling with a single introductory course. Nationally, student drop out of STEM majors happens most frequently after gateway courses in math, physics, chemistry, and biology.

### #29 **Challenge of Succeeding in Intro STEM Course Similar to Public Health Challenges that Require Behavior Change**

Research in the public health field has found that people are more likely to achieve difficult goals, such as smoking cessation or weight loss, if they receive regular, personalized support communications that come directly from someone with whom they can identify.

### #30 **Provide Customized Support to Students in Gateway STEM Courses through Digital Coaching Methods**

Borrowed from public health, digital coaching technologies enable institutions to provide tailored, scalable advice to all students enrolled in a specific course. Through digital coaching, students receive regular performance updates, with motivational tips and strategies, from a student like them.

## *Realizing Opportunities to Integrate Academic and Career Advising*

### #31 **Recent Grads Regret Lack of Career Preparation**

Surveys of recent college grads find that, while new grads seldom regret going to college, a majority wish they had planned more and earlier for career or postgraduate study, taking advantage of more cocurricular activities, as well as experiential learning and resume-building opportunities.



- 
- #32 Structural Barriers Stymie Integrated Career and Academic Advising**  
Though the benefits of more integrated academic and career advising have been discussed in higher education for years, organizational barriers between Academic Affairs and Student Affairs have historically prevented institutions from integrating academic and career advising.
- #33 Career Resources Available, But Often Accessed Late**  
Although career resources are available to students beginning freshman year, most students wait to access career services until the second half of their college experience. The advice that students get on their major and curricular path during their first two years is usually entirely divorced from career discussions.
- #34 Major Maps Provide Integrated Academic and Cocurricular Guidance**  
Beginning freshman year, provide students and advisors with one-page, major-specific maps containing integrated academic and career advice spanning the four-year college experience. Include information on cocurricular activities and career possibilities related to each individual major.
- #35 Maps Useful for Variety of Advising Conversations**  
When implemented across campus, discipline-specific cocurricular maps can support a range of conversations between students and advisors. Maps can help first-year students compare and contrast majors and the cocurricular and career opportunities associated with them. Once a student has declared his or her major, faculty advisors can use the maps to remind students (and themselves) of relevant academic requirements.
- #36 In Theory, Opportunities to Integrate Career and Academic Advising Are Plentiful**  
The most common services provided by career centers—counseling appointments, career assessment tools, resume critiques, and group workshops—could theoretically be delivered by individual advisors in concert with academic planning. However, organizational barriers have kept institutions from integrating academic and career advising functions.
- #37 Employ Dual-Focus Advisors to Provide Integrated Academic and Career Advising**  
By hiring advisors who have the knowledge and skills to advise students on both their academic decisions and their career development, institutions can begin to break down the long-standing barriers between academic and career advising. By focusing these “hybrid” positions on the students most likely to need career support early in their academic career, such as undeclared students and liberal arts majors, institutions can implement hybrid advisors incrementally and to greatest effect.
- #38 More Institutions—Especially Privates—Investing in Career Development Initiatives**  
Spurred by the economic downturn, which had a disproportionately negative effect on liberal arts majors in the job market, a number of private liberal arts institutions have recently made investments in career development initiatives. In April 2012, Wake Forest University hosted a national conference on its campus focused on the role and value of a liberal arts education in 21st century careers.
- #39 Fold Career Advising into the Curriculum by Offering For-Credit Career Development Courses**  
By awarding academic credit for career development coursework, and by initiating the course sequence during students’ first year of study, institutions signal to students and the university community the importance of early and intentional career planning.

## Top Lessons from the Study (continued)

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- #40 **Alumni-Student Networking Events Seldom Produce Concrete Next-Steps for Students or Alumni**  
The random mix of attendees at typical networking events often leads to surface-level interactions between students and alumni rather than meaningful conversations about shared professional interests or career goals.
- #41 **Leverage Exceptional Alumni as High-Impact Mentors through an Executive-In-Residence Program**  
Institutions can create special opportunities for students to interact with high-profile mentors from a variety of fields by hosting accomplished alumni as “executives-in-residence.” Over a two- or three-day visit, alumni who are recognized leaders in their fields meet with students who have a specific interest in their career path for mock interviews, resume critiques, and general industry advice.
- #42 **Advising Web Resource Center**  
As a supplement to this publication, the University Leadership Council is pleased to provide members with access to an online resource center of academic and career advising materials. The resources—templates, tools, job descriptions, and syllabi— are available for download at [www.educationadvisoryboard.com/ulc](http://www.educationadvisoryboard.com/ulc).

# Understanding Your Current Practice: Diagnostic Questions

These diagnostic questions reflect the essential ingredients of approaches used by best-practice institutions. Members may use them to determine if the full range of best practices is being used on their campuses and to evaluate whether absences represent an opportunity for investment or action.

## Balancing Exploration and Progress

Yes No

### I. Promoting Completion Efficiency

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 1. Has the institution created pre-major academic tracks, grouped according to common prerequisite courses, for undecided students?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Are the tracks designed such that undecided students can explore their interest in a disciplinary area while ensuring all credits they take will count toward degree requirements at the time they declare their major? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Does each academic track for undecided students have a semester-by-semester degree plan for the duration the student remains in undecided status?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Do the degree plans for each pre-major track list required courses that students must complete each semester?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the degree plan for each pre-major track include a one-credit career and major exploration course each semester?   | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered “No” to any of the above questions, please turn to:*

**Practice #1: Pre-major Exploratory Clusters** ..... 20

### II. Leveraging Success-Prediction Analytics

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 1. Are students provided with semester-by-semester degree maps for their specific major?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Do these maps include milestone requirements that students must complete each semester to be considered “on track” in their major? Are these milestones specific courses that must be completed in a given semester, with a designated minimum course grade?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Were milestone courses defined after conducting a comprehensive correlation analysis of historical student transcript data to determine which courses are most predictive of student success for each major? Was this information considered when determining the milestone courses on each degree map? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Was historical student grade data analyzed to determine the minimum grade that students must attain in milestone courses to be considered likely to complete their degree? Was this information considered when determining grade minimums for milestone courses on degree maps?                        | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the institution give students access to an online course suggestion tool that produces a customized list of recommended courses for them each semester?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Does the course suggestion tool recommend only courses that meet requirements for a student’s declared major? Does the tool also prioritize courses that are more central to the curriculum, and therefore more likely to count toward degree requirements if a student changes his or her major?       | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the tool also mine historical student data to prioritize courses that similar students had academic success in?  | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered “No” to any of the above questions, please turn to:*

**Practice #2: Data-Based Degree Milestones** ..... 29

**Practice #3: Performance-Based Major Pathing** ..... 33

## Understanding Your Current Practice: Diagnostic Questions (continued)

### Breaking the Cost-Customization Compromise

Yes No

#### III. Personalizing Advice

- |     |   |                          |                          |
|-----|---|--------------------------|--------------------------|
| 1.  | Does the institution provide one-on-one success coaching for selected students? Is the coaching targeted at students with the highest need, such as freshmen students who have under a 2.0 GPA after their first semester?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.  | Does success coaching address the issues at the root cause of students' academic difficulties (e.g., poor study skills, time management problems)?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3.  | Does success coaching focus on personalized goal setting, with coaches supporting students' goal attainment through monthly meetings and interim email and phone support?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4.  | Are graduate students in counseling, education, and social work leveraged as coaches, providing them practice working holistically with undergraduate students in academic difficulty while helping to contain the costs of the success coaching program?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 5.  | Has the institution analyzed the transcripts of students with a GPA between 2.0 and 3.0 to identify students who meet overall academic requirements, but who are not making timely progress toward degree and may be in need of a new major?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6.  | Does the institution provide specialized transition advisors to students in need of a new academic path?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7.  | Do these transition advisors have broad knowledge of curriculum requirements, coupled with significant academic advising experience and high-level relationship-building and coordinating skills, to better support students' efficient transition to a new major?                                | <input type="checkbox"/> | <input type="checkbox"/> |
| 8.  | Do transition advisors carry a reduced caseload of advisees in light of the more intensive advising they are providing to students? Do they hold a more senior title and receive a higher level of compensation than other advisors in recognition of their advanced skills and responsibilities? | <input type="checkbox"/> | <input type="checkbox"/> |
| 9.  | Does your institution provide digital coaching services students in introductory STEM courses?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. | Through the coaching service, do students receive regular, electronic communications that deliver course performance updates and customized, actionable guidance to students six to twelve times throughout the semester?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. | Do these communications come in the voice of a peer student with whom the recipient student can identify? Are communications tailored according to the gender, age, and academic history of the recipient?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. | Is the guidance students receive through the digital coaching program informed by insights and recommendations from previous students who did better than expected in the gateway STEM course?  | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered "No" to any of the above questions, please turn to:*

Practice #4: Student Success Coaching Fellows.....	43
Practice #5: Transition Specialists.....	47
Practice #6: Customized Peer Success Pushes.....	52

## Realizing Opportunities to Incorporate Career Advising

Yes No

### IV. Integrating Career Advising

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. Does your institution provide students with one-page, major-specific visual documents that contain year-by-year guidance that integrates academic, cocurricular, and career advice?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Does each guide feature cocurricular opportunities and career possibilities that are related to the specific content of each major?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Are these one-page guides distributed across campus and used by academic advisors, career advisors, and faculty members to provide students with consistent, integrated guidance beginning their first year? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Does your institution staff advisors who are cross-trained to provide students with integrated academic advice and career advice to students beginning their first year?                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Are these advisors assigned to work with the students most likely to benefit from early, integrated academic and career advising (e.g., liberal arts majors, students who are undecided about their major)?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Does your institution offer students a sequence of four for-credit career development courses beginning their first year?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the course sequence begin with content to help students self-assess their values, interests, and strengths in order to make more intentional academic and career decisions?                             | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Does the content of the course sequence encourage students to begin exploring careers and networking early in their college experience so they are better prepared for their job search?                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Does the final course in the sequence contain content on personal and professional skills students will need after graduation, such as on-the-job communication and personal budgeting?                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Does your institution offer students the opportunity to interact one-on-one or in a small group with accomplished alumni mentors who share common backgrounds or career interests?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Are alumni mentors selected both for their record of accomplishment and for their ability to connect with and inspire students?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Are alumni mentors hosted on campus for multiple days to maximize the opportunities that students have to interact with them and receive personalized advice?   | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered "No" to any of the above questions, please turn to:*

Practice #7: Discipline-Specific Cocurricular Maps . . . . .	65
Practice #8: Hybrid Advisor Positions . . . . .	68
Practice #9: For-Credit Career Development Courses . . . . .	72
Practice #10: Alumni-in-Residence Mentors . . . . .	75





## Next-Generation Advising

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Increased government focus on higher education “degree productivity” is escalating the already pronounced pressure on leaders to improve student completion rates and reduce average time-to-degree. Although the higher education industry has been focused on improving access and student success for decades, national initiatives such as the completion agenda goals and state moves toward performance-based funding have added even more urgency to the issue of student retention and completion.

## Not Just Access, but Completion

### *Completion Agenda Increases Focus on “Degree Productivity”*



“By 2020, America will once again have the highest proportion of college graduates in the world.”

“The performance-based models in Ohio, Indiana, and Tennessee depart from the traditional philosophy that institutional funding be apportioned according to enrollment.”

*2011 Policy Brief  
New England Board of Higher Education*

### Tennessee's New Outcomes- Based Funding Formula

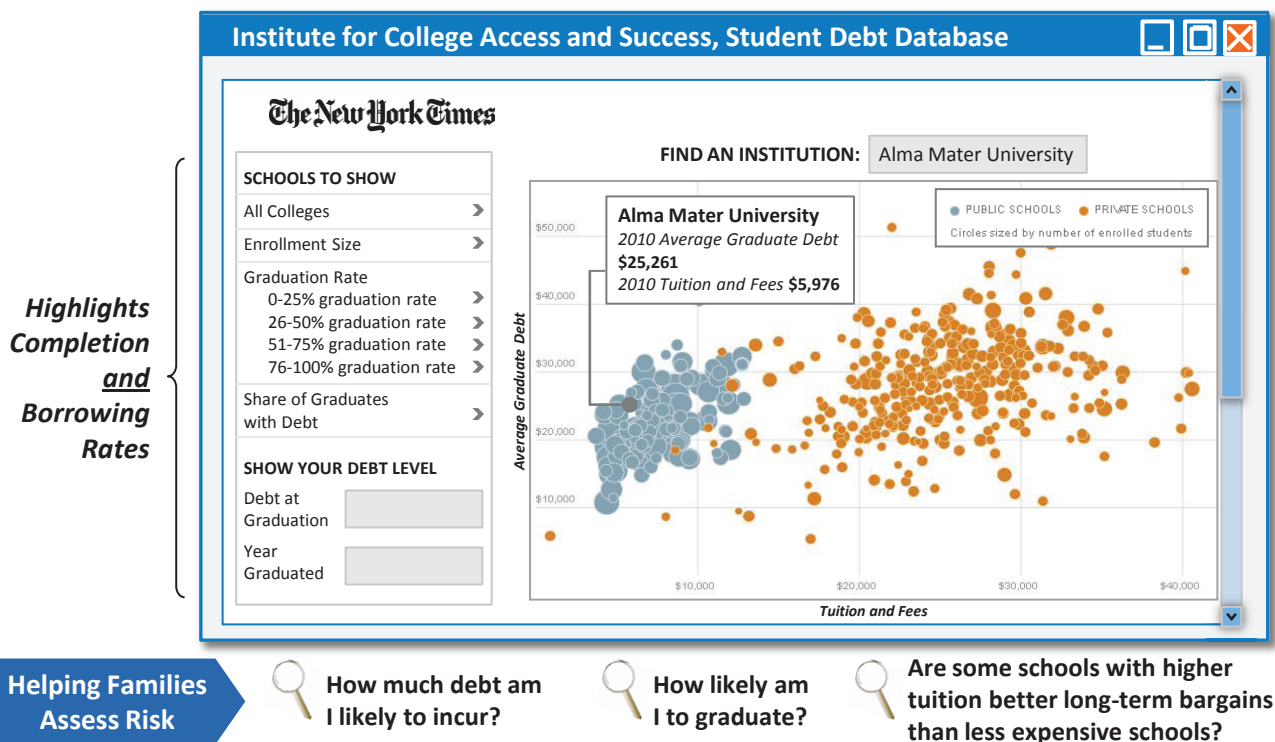
<i>Institutional Outcome</i>	<i>Formula Weight</i>
Student Progression	15%
Total Degrees Produced (Bachelor's)	30%
Total Degrees Produced (Master's)	15%
Degrees per 100 FTEs	15%
Graduation Rate	5%
<b>Total</b>	<b>80%</b>

Source: Barack Obama, July 14, 2009, <http://www.whitehouse.gov/>; Crellin, Aaron, et al., “Catalyst for Completion: Performance Based Funding in Higher Education.” *New England Board of Higher Education* (2011); Education Advisory Board interviews and analysis.

In addition to increased governmental focus on completion, ample evidence suggests that students and families are becoming more sophisticated in the way they make their college decisions, considering factors such as completion rates, average time-to-degree, and average debt load when they compare prospective institutions.

## Not Just Price, but Debt

*Newest Navigators Highlight Borrowing and Completion Rates*



Source: White, J., et. al. "Student Debt at Colleges and Universities Across the Nation" *New York Times* (May 12, 2012); Education Advisory Board interviews and analysis.

Pictured above is an interactive graphic that was recently available on the *New York Times* website. Pulling data from the Institute for College Access and Success, the navigator allows students and families to compare prospective colleges and universities based on more than just sticker price. Besides charting institutions according to tuition and fees, the graph plots institutions according to average graduate debt and also allows users to sort institutions by graduation rate. The growing prevalence of such tools is just one indicator of the increasingly sophisticated information students and families are consulting as they compare and contrast prospective colleges.

In response to the attention that students and families are paying to metrics beyond sticker price and *U.S. News & World Report* rankings, institutions have begun differentiating themselves based on more nuanced points in their promotional materials. For instance, in a recent YouTube video aimed at prospective students, the president of Macalester College, Brian Rosenberg, urges viewers to consider “not just the price of their education, but also the value.”

## Competing on Completion

### More Schools Justifying High Tuition with High Success Rates

#### Getting Past “Sticker Shock”



- 2 of 3 students complete an internship
- 60% of graduates pursue advanced degree within 5 years
- 84% graduate in 4 years

“We know that you have many choices right now. Among the most important factors for you to consider will be price, but also value; not just how much it costs to attend, but what you get out of attending.”

*Brian Rosenberg*  
President, Macalester College

#### New Uptake on Four-Year Graduation Contracts



##### Four-Year Graduation Contract

###### Student will:

- ✓ Meet every semester with academic advisor
- ✓ Remain in good academic standing
- ✓ Follow all general education and program requirements

###### Institution will:

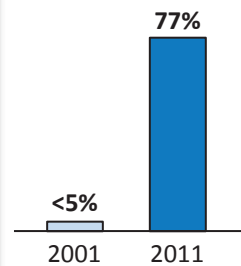
- ✓ Assure availability of required courses
- ✓ Provide ready access to academic advisors



###### The Pledge:

Student will graduate in four years or will be able to take necessary classes **for free**

##### Student Participation Rates



**350 of 439 rising freshmen opt in**

Source: “Brian Rosenberg on Cost vs. Value,” [n.d.], video clip, accessed May 21, 2009 YouTube, <http://www.youtube.com/watch?v=N4u1lwBtIM0>; Education Advisory Board interviews and analysis.

And although four-year graduation contracts have been common for more than 10 years at some institutions, in recent years institutions like Virginia Wesleyan have seen a dramatic increase in the percentage of first year students who opt in to such contracts. Per the terms of Virginia Wesleyan’s graduation contract, the institution pledges to bear the risk of students not graduating on time: if students hold up their end of the bargain (meet with their advisor every semester, remain in good academic standing) and they still fail to graduate in four years, the institution will provide the courses necessary for them to graduate free of charge.

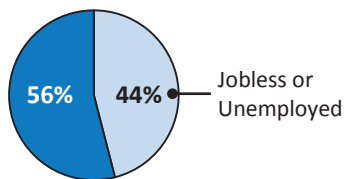
In addition to paying increased attention completion rates, time-to-degree, and average debt load when comparing institutions, students and parents are also asking new, more pointed questions about career advising services and outcomes when they visit prospective campuses. With the current job market still tough—especially for recent graduates—families are asking new questions about job placement rates, internships, and alumni involvement.

## Not Just a Diploma, but a Career

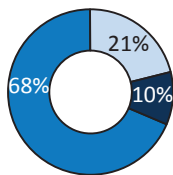
### “Funemployment” Not So Funny

#### Today’s Job Market Still Chilly for Recent Grads

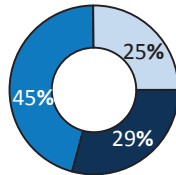
*Bachelor’s Degree-Holders Under 25*



*Computer Science Majors*



*Humanities Majors*

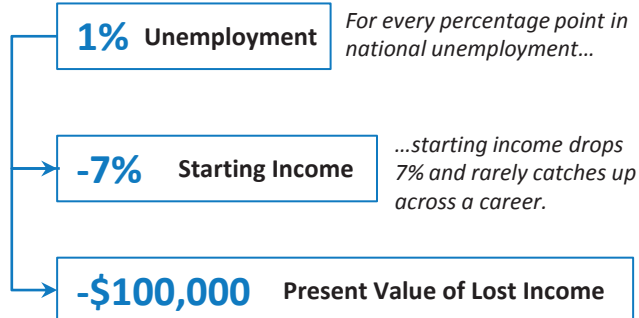


■ Working in jobs that **require** a college degree  
■ Working in jobs that **do not** require a college degree  
■ Not working

#### Lasting Consequences to Not Landing Good First Job



**Professor Lisa Kahn**  
Yale University



*“When you add up earnings losses over the years, it’s as if lucky graduates had been given a gift of \$100,000, or unlucky ones saddled with a debt of the same size.”*

Source: “A College Degree, but Not a College Job.” *New York Times*. (May 19, 2011); Peck, D., “How a New Jobless Era will Transform America,” *The Atlantic*, March 2010; Education Advisory Board interviews and analysis.

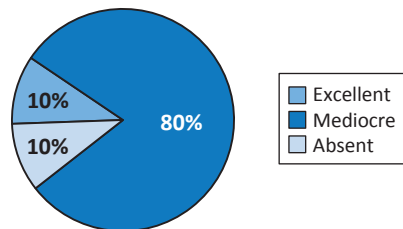
Though we believe that the job market for recent grads—both liberal arts majors and those with more technical degrees—will warm up as the current recession recedes, there is growing evidence that being unemployed or underemployed directly out of college can have lasting effects on recent graduates’ long-term career prospects and earning power. Yale University economist Lisa Kahn has studied the impact that not landing a degree-worthy first job has on college graduates’ lifetime earnings, finding that recent grads who do not secure a good job directly out of college rarely catch up with those who do.

Although most provosts complain that the quality of faculty advising varies widely across their institution, in the Council's view academic leaders' scarce attention and resources are not best leveraged when devoted to improving faculty advising. Absent significant changes in the faculty incentive structure, the consistency of faculty advisor quality is unlikely to meaningfully improve across or within campuses.

## Consistently Inconsistent

### *Faculty Incentive System at Odds with Advising Quality*

Quality of Faculty Advising  
(Illustrative)



#### Wide-Ranging Quality

"My faculty do from a horrendous job to a fantastic job advising students, with most doing just a mediocre job."

*Provost  
Small Private University*

Source: "National Student Satisfaction and Priorities 15-Year Trend Report: Four-Year Private Colleges and Universities," Noel-Levitz, 2011; Education Advisory Board interviews and analysis.

Aside from the somewhat intractable issue of varying faculty advisor quality, there are other fundamental challenges that impede academic advising and student success efforts on all campuses: expanding curriculum choices and increasing curricular complexity; the expense of providing students with personalized advice most likely to change their behavior; and the organizational silos that traditionally exist between academic advising and career advising services.

## Three Root-Cause Problems

*Fundamental Challenges to Advising and Student Success*

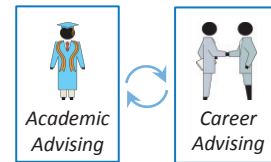
### Too Much Curricular Choice and Complexity



### High Cost of Providing Personalized Advice



### Silos Between Academic and Career Advising



Source: Education Advisory Board interviews and analysis.

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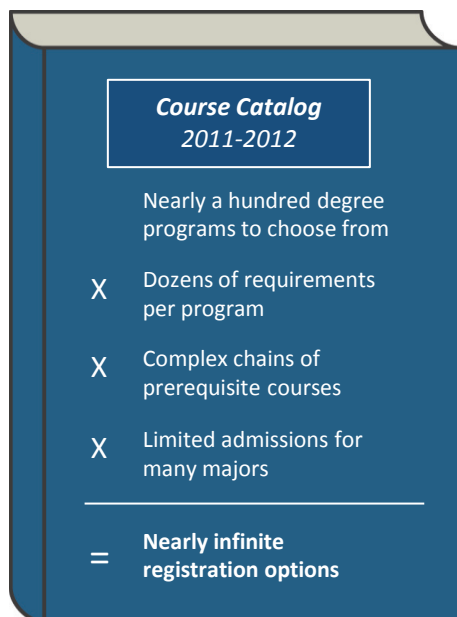
Instead of investing in improving the consistency of faculty advising, the Council recommends that institutions concentrate advising resources on practices that solve for these three fundamental challenges—implementing systems and strategies to maximize the number of students who are on a clear and appropriate path to degree by the end of their sophomore year.

Students enter college from a high school environment where they typically have had little choice about the courses they take each semester, only to be confronted with a vast array of courses and degree programs to choose from and a complex chain of requirements to navigate. Even experienced advisors can have difficulty guiding students through the often Byzantine curricular paths that characterize the curriculum at most institutions with over 5,000 undergraduate students.

## The Dark Side of Choice

### *Limitless Options Not Always a Good Thing*

#### Curriculum Choices Defined by Complexity

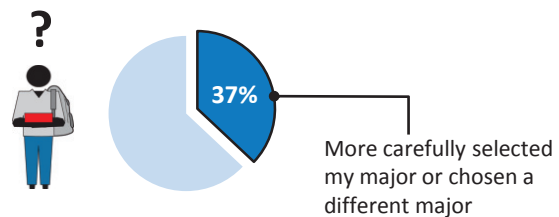


#### Even the Experts Are Confounded

“Course patterns for majors can appear extremely complex, and even experienced academic advisors have difficulty guiding students through them.”

*Capaldi, Lombardi, and Yellen*  
“Improving Graduation Rates,” *Change Magazine*

#### What Would You Have Done Differently About Your College Experience?



Source: Carl Van Horn, Charley Stone, and Cliff Zukin, “Chasing the American Dream: Recent College Graduates and the Great Recession,” *John J. Heldrich Center for Workforce Development* (2012); Education Advisory Board interviews and analysis.

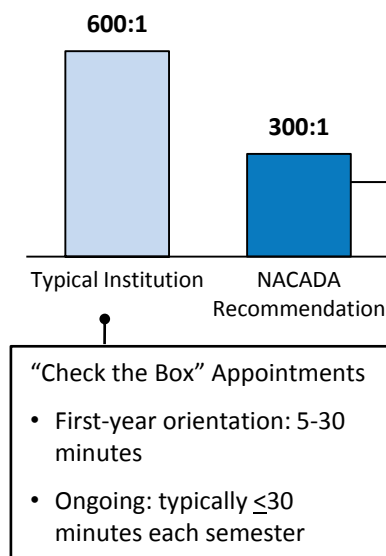
Given the complexity of course choices and degree requirements, it is not surprising that, when asked what they would do differently about their college experience, over one-third of recent graduates say they would have more carefully selected a major or chosen a different major altogether. When students make course and choices of majors in a context of extreme complexity and unrestricted choice, the decisions that they make are not as good as they might have been if their choices were more structured or streamlined.

While the Council does not recommend that institutions devote their limited advising resources toward training and incentives that will improve faculty advising, hiring significantly more professional advisors is not financially tenable for most institutions, either. Providing regular, personalized advice and encouragement to students via professional advisors, rather than quick advising check-ins each semester, would require an investment in more advisors that few institutions can afford.

## The High Cost of Personalization

### Double the Recommended Ratio a Common Occurrence...

*Estimated Advisor-to-Student Ratios*



### ... But Meeting Recommended Ratios an Expensive Proposition

*Estimated Cost of Additional Advisors*

<b>Large Institution: <math>\approx 30,000</math> Students</b>	
<i>Additional advisors needed</i>	35
<i>Cost per year</i>	\$1.75 M
<b>Mid-sized Institution: <math>\approx 15,000</math> Students</b>	
<i>Additional advisors needed</i>	20
<i>Cost per year</i>	\$1 M
<b>Smaller Institution: <math>\approx 3,000</math> Students</b>	
<i>Additional advisors needed</i>	10
<i>Cost per year</i>	\$0.5 M

Source: Education Advisory Board interviews and analysis.

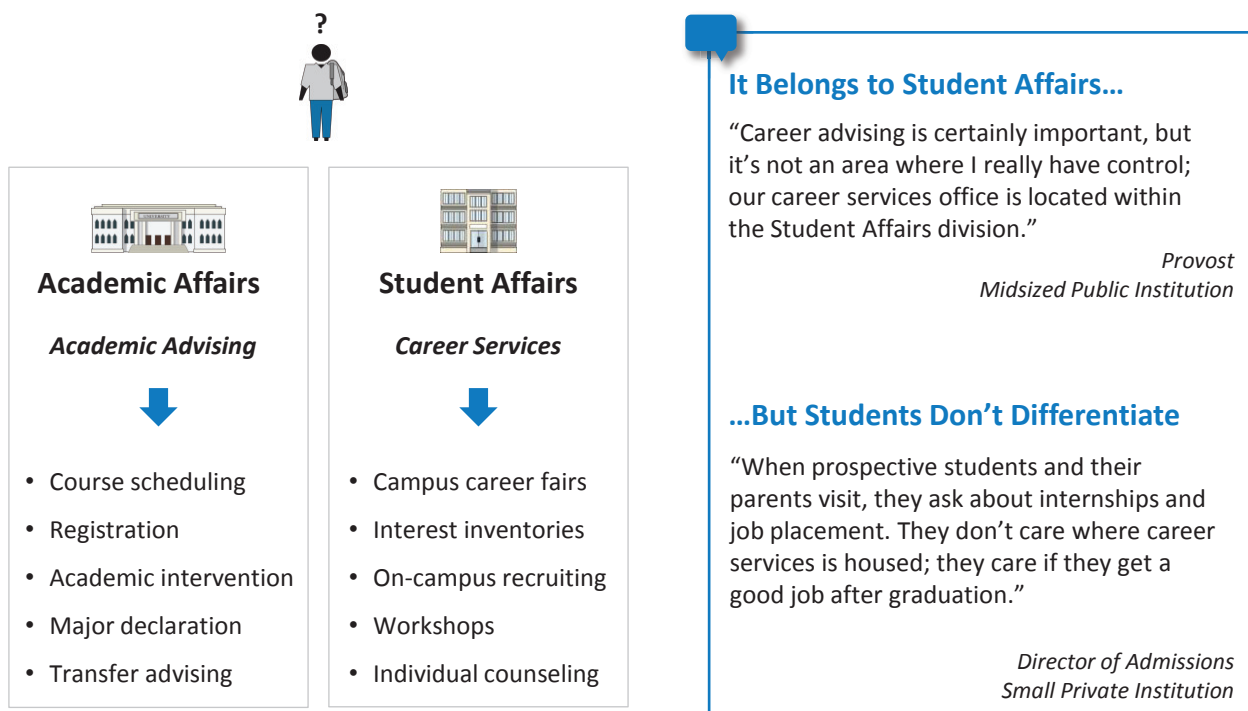
Most institutions with over 5,000 undergraduate students employ at least some professional advisors to provide direct advising to students. At the majority of these institutions, the ratio of professional advisors to students hovers somewhere around 600 to one—about double the ratio that the National Academic Advising Association recommends.



Finally, because the functions of academic advising and career advising reside in separate offices in separate divisions at the vast majority of institutions, integrating the advice that students receive about cocurricular experiences and potential career paths with the guidance they receive about courses and majors is a significant challenge.

## Students Don't See Silos

### *Career Advising Becoming an Institution-Wide Priority*



Source: Education Advisory Board interviews and analysis.

Even though academic advising services and career services are located in separate organizational divisions on most campuses, because students and families do not see the organizational silos between Academic Affairs and Student Affairs when they visit campuses and ask difficult questions about internships, career development services, and job placement rates, today’s academic affairs leaders must bridge organizational barriers with approaches that provide more integrated academic and career-related guidance to students.

This study profiles innovative and cost-effective advising strategies that progressive institutions are employing to improve student degree completion and career readiness. These new approaches to structuring student course and major decisions, personalizing advice, and integrating career and academic advising have been implemented by forward-looking institutions to elevate student degree completion and career success.

## Next-Generation Advising

*Elevating Practice for Degree Completion and Career Success*

### Structuring Choice

*Balancing Exploration and Progress*



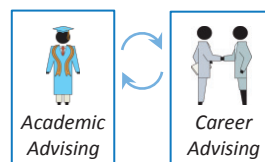
### Changing Behavior

*Breaking the Cost-Customization Compromise*



### Bridging Silos

*Realizing Opportunities to Incorporate Career Advising*



**Key Member Challenge:**

“How do I encourage students to explore their curricular interests while ensuring they make steady progress toward degree?”

**Key Member Challenge:**

“How do I provide personalized advice to students without breaking the bank?”

**Key Member Challenge:**

“How do I provide students with a liberal arts foundation while also ensuring their career readiness?”

Source: Education Advisory Board interviews and analysis.

## Next-Generation Advising

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### *Elevating Practice for Degree Completion and Career Success*

#### *Structuring Choice*

##### Balancing Exploration and Progress

---

#### || Promoting Completion Efficiency

#1 Pre-major Exploratory Clusters

#### || Leveraging Success-Prediction Analytics

#2 Data-Based Degree Milestones

#3 Performance-Based Major Pathing

#### *Changing Behavior*

##### Breaking the Cost-Customization Compromise

---

#### ||| Personalizing Advice

#4 Student Success Coaching Fellows

#5 Transition Specialists

#6 Customized Peer Success Pushes

#### *Bridging Silos*

##### Realizing Opportunities to Incorporate Career Advising

---

#### IV Integrating Career Advising

#7 Discipline-Specific Cocurricular Maps

#8 Hybrid Advisor Positions

#9 For-Credit Career Development Courses

#10 Alumni-in-Residence Mentors





## Balancing Exploration and Progress

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### *I. Promoting Completion Efficiency*

Practice #1: Pre-major Exploratory Clusters

### *II. Leveraging Success-Prediction Analytics*

Practice #2: Data-Based Degree Milestones

Practice #3: Performance-Based Major Pathing

## Next-Generation Advising

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*Elevating Practice for Degree Completion and Career Success*

### Balancing Exploration and Progress

---

#### I Promoting Completion Efficiency

#1 Pre-major Exploratory Clusters

#### II Leveraging Success-Prediction Analytics

#2 Data-Based Degree Milestones

#3 Performance-Based Major Pathing

### Breaking the Cost-Customization Compromise

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#### III Personalizing Advice

#4 Student Success Coaching Fellows

#5 Transition Specialists

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### Realizing Opportunities to Incorporate Career Advising

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#### IV Integrating Career Advising

#7 Discipline-Specific Cocurricular Maps

#8 Hybrid Advisor Positions

#9 For-Credit Career Development Courses

#10 Alumni-in-Residence Mentors

## Understanding Your Current Practice: Diagnostic Questions

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These diagnostic questions reflect the essential ingredients of approaches used by best-practice institutions. Members may use them to determine if the full range of best practices is being used on their campuses and to evaluate whether absences represent an opportunity for investment or action.

### Balancing Exploration and Progress

Yes No

#### I. Promoting Completion Efficiency

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 1. Has the institution created pre-major academic tracks, grouped according to common prerequisite courses, for undecided students?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Are the tracks designed such that undecided students can explore their interest in a disciplinary area while ensuring all credits they take will count toward degree requirements at the time they declare their major? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Does each academic track for undecided students have a semester-by-semester degree plan for the duration the student remains in undecided status?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Do the degree plans for each pre-major track list required courses that students must complete each semester?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the degree plan for each pre-major track include a one-credit career and major exploration course each semester?   | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered "No" to any of the above questions, please turn to:*

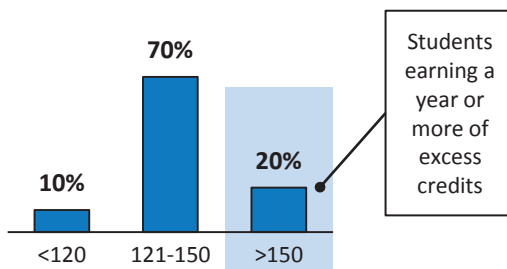
**Practice #1: Pre-major Exploratory Clusters ..... 20**

A 2011 analysis of seven years of transcript data from public institutions reveals the extent to which US students are pathing inefficiently to their degree. Fully 20% of degree completers finished their degrees with more than 150 credits, or over a year of credits beyond typical degree requirements.

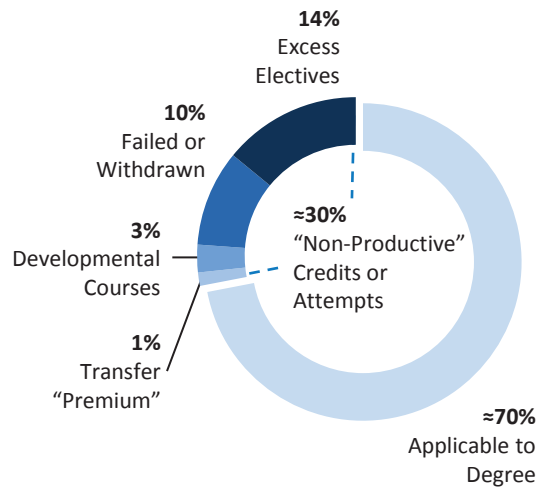
## Taking the Scenic Route

*Analysis of State System’s Transcript Data Reveals Graduation Inefficiency*

**Credit Hours Earned by Bachelor’s Completers**



**Credits Attempted by Degree Completers**



**Time Is the Enemy**

“In an environment in which time to degree has considerable implications for a student’s likelihood of successfully graduating, a semester of extra coursework plays a crucial factor.”

*Tristan Denley, Provost  
Austin Peay State University*

Source: Auguste, B. G, et al. “Winning by Degrees: The Strategies of Highly Productive Higher Education institutions.” *McKinsey & Company* (2011); Erickson, B.L. and Strommer, D.W. *Teaching College Freshmen*. San Francisco: Jossey Bass, 1991; Education Advisory Board interviews and analysis.

Looking at the academic credits attempted by degree completers, McKinsey & Company’s analysis finds that 14% of all credits attempted by students end up as “excess elective” credits, or academic credits that were unnecessary for degree completion. Excess electives were the largest single category of credits that did not ultimately apply to students’ degrees.

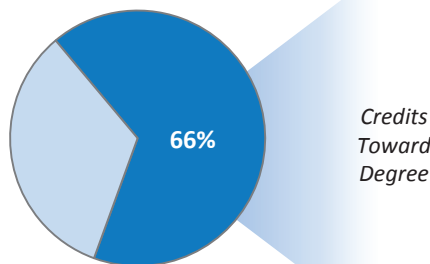


More than half of all undergraduate students will change their major at least once during their academic career. When a student changes his or her major, credits that previously counted toward degree are converted into excess electives. For many students, a change in major can result in a setback in their progress toward degree requirements, necessitating that the student take more credits—and more semesters—to get to degree.

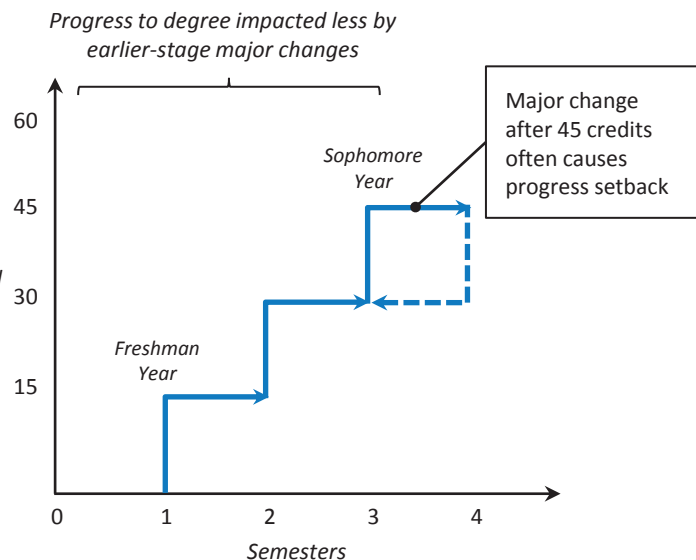
## Two Steps Forward, One Step Back

*Late-Stage Major Change (or Declaration) a Key Cause of Excess Credits*

**Percentage of Students  
Who Re-evaluate or Change Majors**  
*National Estimate*



**Impact of Major Change**  
*on Credits Toward Gen Ed or Major Requirements*



Source: Erickson, B.L., Strommer D.W., *Teaching College Freshmen*. San Francisco: Jossey Bass, 1991; Education Advisory Board interviews and analysis.

While a change in major concentration will not definitely cause a student to incur a progress setback, the more credits a student has earned, the more likely he or she is to “lose” these credits when transitioning to another major. Generally, students who change their major after completing more than 45 credits are more likely to incur a progress setback and require more semesters to graduate.

As a population, undeclared students are also at risk of increased time to graduation; this risk increases the longer a student remains in undeclared status. Lacking a destination, undeclared students often meander through the curriculum, sampling courses that will not ultimately count toward degree requirements.

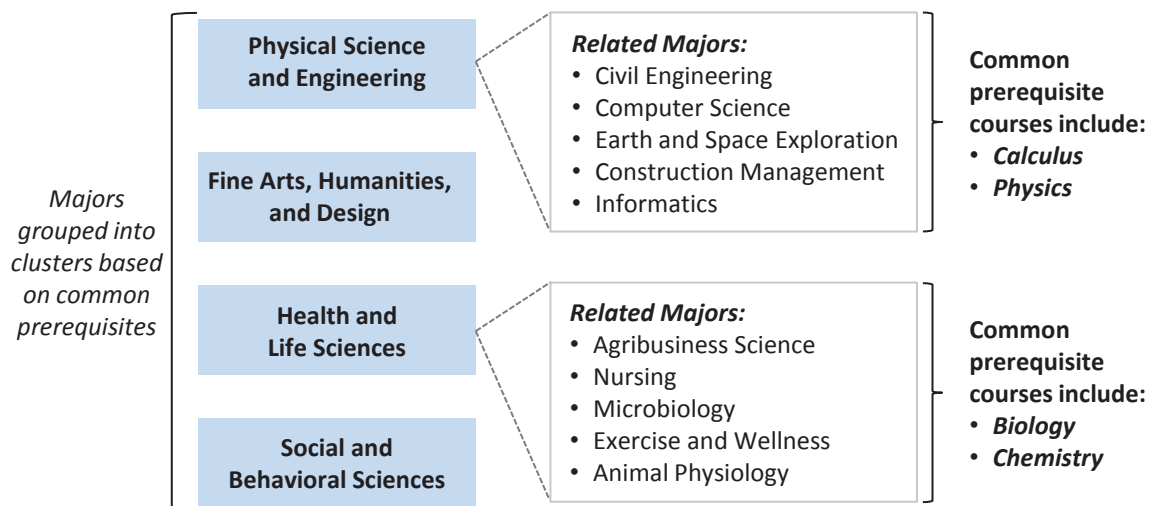
## Practice #1: Pre-major Exploratory Clusters

To simplify the major decision-making process and prevent progress setbacks, progressive institutions have created exploratory tracks for entering students. Each exploratory track is affiliated with a cluster of majors that share common prerequisites. Exploratory tracks make it possible for students to explore the curriculum with less risk, as any course a student takes in an exploratory track will count toward degree requirements for all affiliated majors.

### Simplifying Decision Making



#### Sample Exploratory Tracks for Undecided Students



Source: Education Advisory Board interviews and analysis.

At profiled institutions, all first-year undecided students and transfer students are required to enroll in an exploratory track. In addition to preventing progress setbacks if a student changes his or her major, by selecting an area of focus early, exploratory tracks give undeclared students greater sense of purpose and direction to their studies. By exposing students to curriculum critical to an area of study, exploratory tracks also help students to more quickly determine whether they have the interest and aptitude in that curricular area.

Arizona State University has created degree maps to work in tandem with each of the institution's four exploratory tracks, providing term-by-term guidance to students and advisors on specific courses that students should successfully complete each semester to remain "on track." These required courses will apply to all majors affiliated with the exploratory track.

## Exploring...with Guardrails

### Exploratory Degree Maps Provide Structure for Undeclared Students



#### Exploratory Track: Engineering, Math, Technology, and Physical Sciences

	Semester One		Semester Two	
	Term One: 0-15 Credit Hours	Hours	Term Two: 16-30 Credit Hours	Hours
ASU 101: The ASU Experience	1		UNI 250: Choosing a Major	1
UNI 150: Major and Career Exploration	1		ENG 102: Advanced Composition	3
ENG 101: First-Year Composition	3		MAT 170/270: Precalculus or Calculus	3
MAT 117/170/270: College Algebra, Precalculus, Calculus <small>*Depending on math placement score</small>	3		Natural Science Core Requirement	3
Natural Science Core Requirement	3		Computer Literacy/Statistics	3
Social/Behavioral Science or Humanities Core Requirement	3		Social/Behavioral Science or Humanities Core Requirement	3

Shaded courses must be taken during designated term

UNI 150 and 250: One-credit courses on major exploration

Source: Education Advisory Board interviews and analysis.

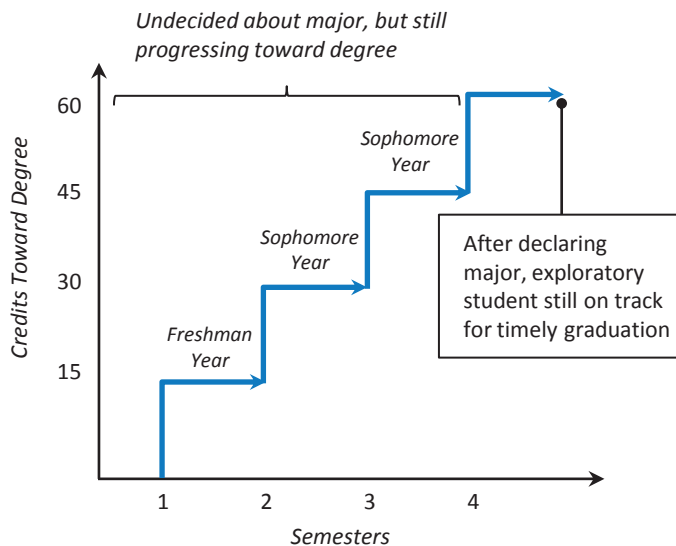
Regardless of track, all exploratory students at ASU are required to take a one-credit course related to major and career exploration each semester they are enrolled in the exploratory program. These courses are designed to help students map their aptitude and academic and career interests to an academic path, thereby making a more thoughtful and informed major decision which they are less likely to change later on.

Exploratory tracks provide students with a middle-ground option between undecided status and selecting a single major. By grouping majors that share common prerequisites together, exploratory tracks allow undecided students to explore their interests until their fourth semester without the risk of negatively impacting progress toward degree.

## Still on Track

### Exploratory Clusters Prevent Progress Setbacks

#### Impact of Major Change on Credits Toward Gen Ed or Major Requirements



#### Decisions That Stick

“By the time they have taken 45 credits, those [students in an exploratory track] must choose a specific program. Although they may change majors at any time, most stay with the one they initially picked, and if they do change, very few do so more than once.”

*Capaldi, Lombardi, and Yellen*  
 “Improving Graduation Rates,” *Change Magazine*

Source: Capaldi E., Lombardi J., Yellen V., “Improving Graduation Rates: A Simple Method That Works,” *Change*, July/August 2006; Education Advisory Board interviews and analysis.

If a student remains undecided about a specific major or changes his or her major up to fourth semester, he or she has still earned credits that will count toward degree requirements. At profiled institutions, students in exploratory tracks were more likely to stay with their first major and very unlikely to switch majors more than once.

Exploratory tracks were implemented at Arizona State in 2008, as part of Provost Betty Capaldi's institution-wide initiative to increase student retention and graduation. After analyzing student enrollment histories since 2008, ASU found that while 60% of students who come into the institution with a major will eventually change that major, only 20% of exploratory track students change their major after declaring.

## Rapid Retention Gains

### ASU Implements Exploratory Tracks as Part of Institution-Wide Retention Effort

**2006**

Elizabeth Capaldi hired as provost, maps out new student advising system based on success of similar effort at University of Florida

**2008**

Exploratory tracks implemented; undecided students now tracked into one of four exploratory tracks, including mandatory one-credit career and major exploration course each semester

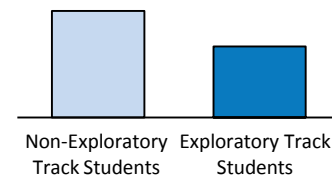
**2009**

**2012**

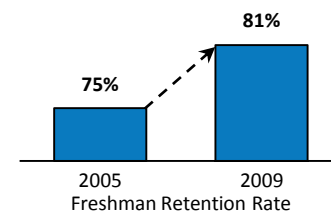
*UNI 294: Next Steps in Career and Major Planning* created for students in final semester of exploratory status

### Exploratory Track Students Less Likely to Change Major After Initial Declaration

ASU Students Changing Major



### ASU Reaps Quick, Significant Freshman-Sophomore Retention Gains



Source: Carmean C., Mizzi P., "The Case for Nudge Analytics," *EDUCASUE Review Online*, December 2010; Education Advisory Board interviews and analysis.

Though it is impossible to isolate the impact that the implementation of exploratory tracks had on completion outcomes from the effect that other components of ASU's completion efforts had, it is worth noting that just three years after Dr. Capaldi arrived at ASU, the institution's first year retention rate had jumped a full 6 percentage points.

ASU continues to refine the exploratory track initiative. In fall 2012 the institution will require a new one-credit course for exploratory students who are in their third semester of study.

## Next-Generation Advising

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*Elevating Practice for Degree Completion and Career Success*

### Balancing Exploration and Progress

---

#### I Promoting Completion Efficiency

#1 Pre-major Exploratory Clusters

#### II Leveraging Success-Prediction Analytics

#2 Data-Based Degree Milestones

#3 Performance-Based Major Pathing

### Breaking the Cost-Customization Compromise

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#### III Personalizing Advice

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#5 Transition Specialists

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### Realizing Opportunities to Incorporate Career Advising

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#### IV Integrating Career Advising

#7 Discipline-Specific Cocurricular Maps

#8 Hybrid Advisor Positions

#9 For-Credit Career Development Courses

#10 Alumni-in-Residence Mentors

## Understanding Your Current Practice: Diagnostic Questions

These diagnostic questions reflect the essential ingredients of approaches used by best-practice institutions. Members may use them to determine if the full range of best practices is being used on their campuses and to evaluate whether absences represent an opportunity for investment or action.

### Balancing Exploration and Progress

Yes No

#### II. Leveraging Success-Prediction Analytics

- |  |                          |                          |
|--|--------------------------|--------------------------|
| 1. Are students provided with semester-by-semester degree maps for their specific major?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Do these maps include milestone requirements that students must complete each semester to be considered “on track” in their major? Are these milestones specific courses that must be completed in a given semester, with a designated minimum course grade?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Were milestone courses defined after conducting a comprehensive correlation analysis of historical student transcript data to determine which courses are most predictive of student success for each major? Was this information considered when determining the milestone courses on each degree map? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Was historical student grade data analyzed to determine the minimum grade that students must attain in milestone courses to be considered likely to complete their degree? Was this information considered when determining grade minimums for milestone courses on degree maps?                        | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Does the institution give students access to an online course suggestion tool that produces a customized list of recommended courses for them each semester?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Does the course suggestion tool recommend only courses that meet requirements for a student’s declared major? Does the tool also prioritize courses that are more central to the curriculum, and therefore more likely to count toward degree requirements if a student changes his or her major?       | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the tool also mine historical student data to prioritize courses that similar students had academic success in?  | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered “No” to any of the above questions, please turn to:*

- Practice #2: Data-Based Degree Milestones . . . . . 29
- Practice #3: Performance-Based Major Pathing . . . . . 33

Given the range and complexity of curriculum choices at many institutions, it is not surprising that advisors often give students advice that is less than optimal. Any human dealing with complex systems will have blind spots or give undo weight to certain details based on his or her personal experiences or preferences.

## The Human Disadvantage

### Advisor Guidance Based on Limited Information...

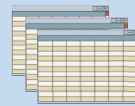
“Since you got a C in Economics last semester...”

Students’ recent grades, or advisors’ recent experience with other advisees, can bias advice

“What about a Bio major?”

Suggestions for alternative majors not based on full knowledge of all possibilities and progress-to-degree implications

### ...Uninformed by Comprehensive Data Housed in Student Information System



Entirety of student’s academic record, including high school grades and GPA



Data on outcomes of hundreds of similar students in all possible alternative majors

### Innately Fallible

“Humans tend to have blind spots when handling tasks like advising, which involves complex systems. People often give too much weight to certain details based on personal preferences.”

*Ian Ayres  
Economist and Author of “Super Crunchers”*

Source: Jeffery Young, “The Netflix Effect: When Software Suggests Students’ Courses,” [The Chronicle of Higher Education](#), April 10, 2012; Education Advisory Board interviews and analysis.

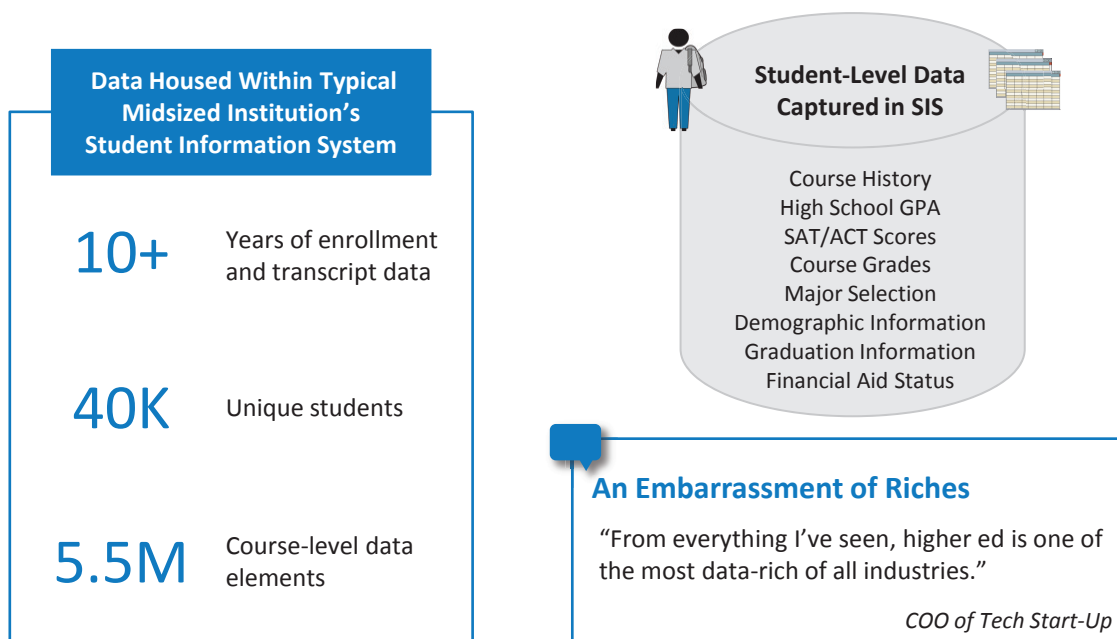
Though most institution’s student information systems house rich data from past students that could inform current students’ course and major decisions, rarely is this data available to advisors or built into advising systems.



The information on current and past students captured within the typical institution's student information system goes back over 10 years and includes literally millions of data points. Compared with other industries, higher education has a wealth of historical data in electronic format.

## A Largely Untapped Resource

### Reams of Student Success Data Captured in SIS



Source: Education Advisory Board interviews and analysis.

The challenge for most institutions lies in leveraging the information captured in the student information system to help students make more informed course and major decisions. Even advanced institutions that have created semester-by-semester degree maps for each major seldom consult historical student data when creating their maps and determining success milestones.

## Progressive, but Not Data-Based

### *Degree Maps and Milestones Seldom Informed by Data Analysis*

**Our Advice in 2009: Developing a Degree Map Milestone Program**

**1** Develop prescribed four-year course progressions for each major

**2** Define success milestones for each degree map

Critical courses identified based on enrollment patterns rather than analyses of student success outcomes

Journalism <i>Term 4</i>	Credits	Min. Grade
JMS 300: Principles of Journalism	3	C
JMS 375: Media and the World	3	C
Humanities/Lit. (Gen Ed)	3	C
Social Science with Lab (Gen Ed)	3	C
Stat 250: Statistics	3	C
<b>Total Hours</b>	15	

**Building a Degree Map Milestone Program**

- Base milestones on pre-existing degree requirements
- Time milestones according to historical patterns of course enrollment
- Intervene with students who obtain less than a C in a milestone course

Critical grade threshold assumed to be C

Source: "Hardwiring Student Success: Building Disciplines for Retention and Timely Graduation," Education Advisory Board, 2009; Education Advisory Board interviews and analysis.

In 2009, we recommended that institutions develop a degree map milestone program to provide more prescriptive guidance to students and to allow for earlier identification of students who are not safely progressing toward their degree. At that time, few institutions had developed any sort of degree map milestone program, but even those that had a program in place based it on a set of assumptions. Courses that students took most often were presumed to be most predictive of success in major, and the minimum grade that students needed in order to be considered in good standing was assumed always to be a C.

## Practice #2: Data-Based Degree Milestones

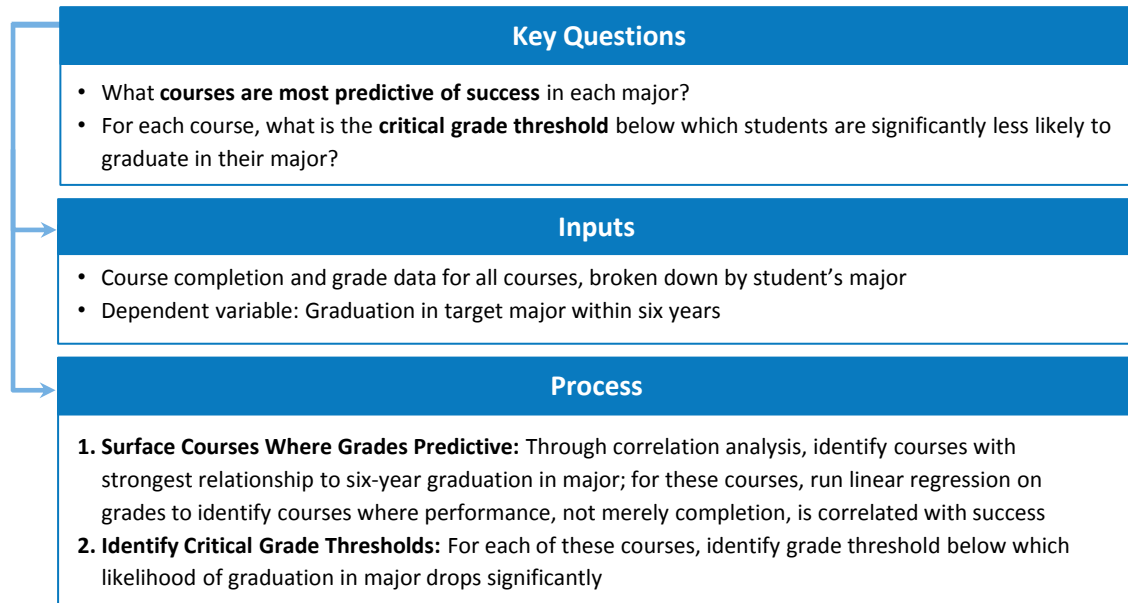
Florida International University (FIU) had had a degree map milestone program in place for several years when, in 2011, the institution took the program a step further. Through the institutional research office, FIU conducted a comprehensive analysis of all undergraduate majors to determine the courses and minimum course grades that were most predictive of students' future graduation in that major.

### Mining Data to Inform Student Guidance

#### *FIU's Data-Based Degree Milestones*



#### IR Office Conducts Comprehensive Analysis to Refine Degree Map Milestones



Source: Education Advisory Board interviews and analysis.

Examining data from the past five classes of students, FIU sought to test the assumptions about the key courses and minimum course grades that it had based its degree map milestones on.

The results of FIU's comprehensive analysis included quite a few unexpected findings. For instance, though Intro to Statistics was prioritized on the degree map for psychology majors, the analysis indicated that passing the course was only weakly predictive of students' eventual success in psychology.

## Some Surprising Findings

### *FIU Analysis of Student Data Yields Unexpected Insights*

#### Some Obvious Conclusions...

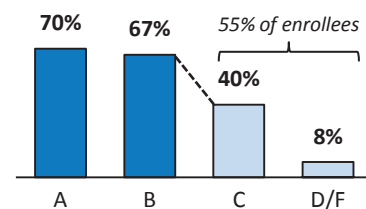
- First two math courses strongly correlated with success in any quantitative field
- Taken together, math and chemistry grades extremely predictive of student success in STEM majors

#### ...But Many Surprising Findings

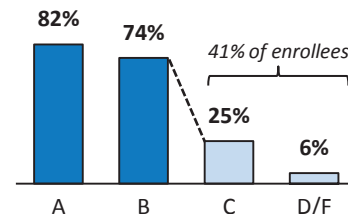
- Only 15% of nursing students who earned a B in English Composition graduated in nursing
- Intro to Statistics was only weakly predictive of success in a psychology major
- Only 25% of students majoring in political science who got a C in Comparative Politics graduated in six years

#### So Much for the Gentleman's C

Likelihood of Completing Degree in Natural Sciences Based on Grade in Intro Chemistry



Likelihood of Completing Degree in Political Science Based on Grade in Intro Comparative Politics



Source: Education Advisory Board interviews and analysis.

And though natural science majors who received a C grade in Intro to Chemistry were considered by the institution's degree map milestones to be on path to degree, historical data showed that the majority of students who received a C in the Intro Chemistry course did not ultimately graduate with a degree in the natural sciences.

FIU has updated the institution's degree maps for each major based on the findings of the institutional research office's analysis of historical student-level data. Rather than being based solely on the impressions about the courses and minimum grades that are most critical for students to complete, the milestones for each degree map are now founded on combination of both experience and data.

## Putting a Finer Point on "Success"

### Data-Based Identification of Critical Courses and Grade Thresholds (Illustrative)

		Academic Majors			
		Education	Natural Sciences	Nursing	Economics
Selected "Sentinel" Courses	First Math		B	B+	
	Second Math		B-	C	
	English Comp I	B			
	English Comp II	C+			B-
	Macroeconomics				A-
	Chemistry I		B	C	

**1** For each major, use data to help identify courses most predictive of six-year graduation

**2** For each highly predictive course, use data to help identify grade threshold most critical for six-year graduation in major

### Data > Experience Our Updated Guidance

#### Building a Degree Map Milestone Program

- **Not always the obvious courses**  
Use past student data to identify courses most correlated with success
- **Not always a C**  
Analyze past student data to identify threshold grades most correlated with student success

Source: Education Advisory Board interviews and analysis.

When students make decisions about the courses they will be taking each semester, they consider a variety of factors, such as the location of the course, whether the course fulfills academic requirements, and the reputation of the professor on sites like RateMyProfessor.com. However, the information that students have access to about past students' academic experiences and course success is anecdotal, not data-based.

## Not All Course Options Created Equal

### *Students Unaware of All Course Decision Considerations*

#### What Students Consider When Selecting Courses



- Is this course offered at a convenient time and location?
- Is this course a major requirement?
- What does RateMyProfessor.com say about this course section?
- Are my friends taking this course?

#### What Students Don't Consider When Selecting Courses

##### 1 Some courses "pivot" more easily than others

Because some courses are more central to the curriculum, if a student switches his/her major, these courses are more likely to count toward requirements in a new major.

##### 2 Some courses are better academic fits than others for an individual student

Depending on a student's academic history, some courses may be more or less appropriate for that student.

Source: Education Advisory Board interviews and analysis.

## Practice #3: Performance-Based Major Pathing

To provide students with data-based course guidance and to encourage student success, Austin Peay State University (APSU) has developed a Netflix-style tool for students called Degree Compass. When APSU students log into the Degree Compass system to register for the next semester's courses, the tool produces a customized listing of 10 recommended courses. Students can click through to additional information on each course as well as section availability.

### The Netflix Effect

#### APSU's "Degree Compass" Course Suggestion Tool



Degree Compass tool prioritizes courses according to three key factors:

- ✓ Does course fulfill a major requirement?
- ✓ How central is the course to the curriculum? Is it more likely to "pivot" if student changes major?
- ✓ *Is student likely to be successful in course based on grade prediction algorithm?*

**Courses To Consider**

**Course Suggestions for You from THE GOV:**

You may not need to take all of the courses listed to graduate but each of the courses listed satisfies one of your degree requirements. When several courses might satisfy a degree requirement, the rating and projected grade may be helpful in selecting which course to choose. Please consult your Advisor or degree evaluation for specific program requirements.

PM3230 - Public Personnel Admin	★★★★★	<a href="#">View Sections</a>
HIST1220 - World History II	★★★★★	<a href="#">View Sections</a>
PM3180 - Criminal Procedures	★★★★★	<a href="#">View Sections</a>
PM3760 - Methods of Research	★★★★★	<a href="#">View Sections</a>
CRJ3020 - Criminal Evidence Procedure	★★★★★	<a href="#">View Sections</a>
CRJ3410 - Domestic Terrorism	★★★★★	<a href="#">View Sections</a>
CRJ4000 - Law Enforcement Admin	★★★★★	<a href="#">View Sections</a>
CRJ3420 - International Terrorism	★★★★★	<a href="#">View Sections</a>
CRJ3430 - Management of Incidents	★★★★★	<a href="#">View Sections</a>

Filter:

These suggestions are courses in which other students similar to you have made successful progress in your program of study. You should always consult your advisor when planning your schedule. [What is this? Feedback](#)

Interactive interface allows students to click through to:

Curriculum and degree requirement information

Class availability information

Source: Education Advisory Board interviews and analysis.

APSU's Degree Compass tool weights three key factors in determining the courses that are recommended for each student. First, the tool narrows all possible courses down only to those that satisfy at least one degree requirement for the student. Next, courses are prioritized according to how central they are to the curriculum; the more central a course, the more likely it is to count toward requirements if a student later changes his or her major, so this aspect of the formula serves to guard against students incurring a progress setback if they change majors. Finally, the tool uses a predictive algorithm, based on data from previous Austin Peay students with the same academic credentials and course history, to prioritize the courses in which the student is most likely to perform well academically. This algorithm, which APSU refers to as the tool's "grade prediction engine," was developed by Provost Tristan Denley, who has a mathematics background.

Since it was launched in spring 2011, Degree Compass has garnered both impressive results and national attention. The “grade prediction engine,” the tool uses to forecast students’ semester grade point average, proved to be accurate within an impressive 0.05 of a point. Students who took courses recommended by the tool earned semester GPAs that were 0.5 higher than the GPAs of students who did not take recommended courses.

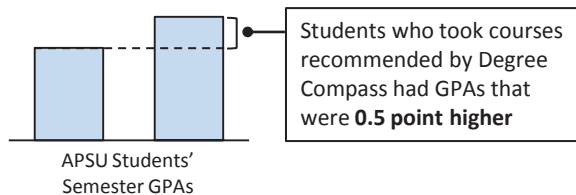
## Early Returns

### *Better Outcomes for Students and the Institution*

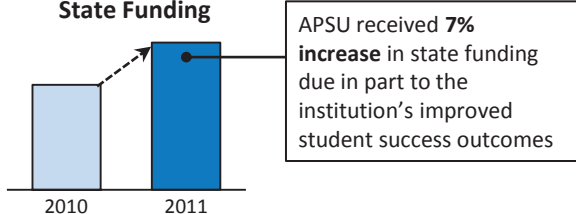
#### Provost Denley’s “Grade Prediction Engine” Impressively Accurate

- ✓ 90% of students predicted to get a C or better do so
- ✓ Semester GPA prediction accurate to 0.05

#### Student Users Achieve Higher Grade Point Averages



#### APSU Receives Increase in State Funding



#### National Attention

##### 2011:

APSU receives \$500K grant from Complete College America and Gates Foundation to implement Degree Compass across Tennessee

- University of Memphis
- Nashville State Community College
- Volunteer State Community College

##### 2012:

- Featured in EDUCAUSE “Game Changers” publication
- Awarded Bronze Learning Impact award by IMS Global Learning Consortium
- Discussed by Bill Gates in keynote address on future of public higher education

Source: Educause “Game Changers: Education and Information Technologies,” May 2012, <http://net.educause.edu/ir/library/pdf/pub7203.pdf>; Education Advisory Board interviews and analysis.

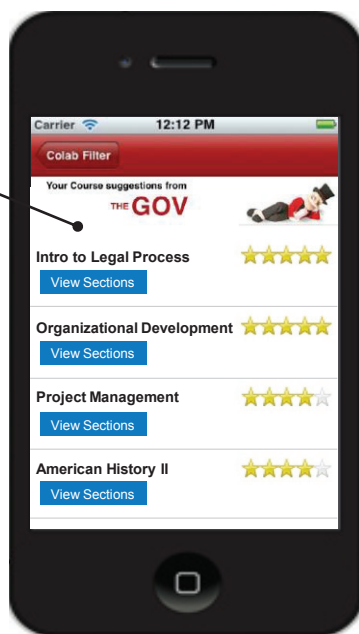
Throughout 2012 Degree Compass has received national and international attention from organizations such as EDUCAUSE and innovators such as Bill Gates. After receiving a \$500,000 grant from Complete College America and the Gates Foundation, APSU is partnering with three other public institutions in Tennessee to implement the tool at other campuses in fall 2012 and, hopefully, replicate its results.



Dr. Denley has continued to update Degree Compass' implementation on his own campus as well. The same course recommendation information available to students via computer is also available on APSU's mobile application. Degree Compass can also provide advisors with enterprise-scale reports that enable targeted academic support interventions based on students' projected course grades.

## Forging Ahead Quickly

Degree  
Compass's  
New Mobile  
Application



### Next: Data-Guided Major Advising

“Course selection is crucial to student success, but so too is choice of major. The APSU team is currently refining a feature that will allow Degree Compass to suggest majors on each student's academic record and predict future grades.”

*Dr. Tristan Denley in  
2012 EDUCAUSE publication*

Source: Educause “Game Changers: Education and Information Technology,” May 2012, <http://net.educause.edu/ir/library/pdf/pub7203.pdf>; Education Advisory Board interviews and analysis.

As the quote above states, as a next step Dr. Denley is working with his team to develop a feature through which Degree Compass will suggest majors for each student.

While the application of accurate success-prediction analytics in higher education is exciting, critics have questioned whether the practice of recommending courses to students based on their predicted grades encourages students to enroll in easier academic paths—at the expense of academic rigor and without regard for students’ interest in a particular subject area. As institutions develop more sophisticated e-advising tools based on predictive analytics, concerns about unintended consequences are likely to increase.

## The Future of Major Advising?

### *Accurate Course-Success Analytics Open Up New Possibilities*

#### Major Suggestion Tool Interface (Illustrative)

MAJOR RECOMMENDATION TOOL			
<b>Student Profile</b> Diana Wilson Total Credits Earned: 45 Cumulative GPA: 3.1			
<div style="text-align: right; background-color: #0070C0; color: white; padding: 5px; border: 1px solid #0070C0;">           Tool uses predicted course grades to determine best and worst major options for individual students         </div>			
Recommended Majors Sorted by College			
<i>Coll. of Science &amp; Math</i>	<i>Coll. of Liberal Arts</i>	<i>Coll. of Education</i>	<i>Coll. of Eng. &amp; Comp. Sci.</i>
<ul style="list-style-type: none"> <li>✔ Mathematics</li> <li>✔ Physics</li> <li>✔ Statistics</li> <li>✔ Psychology</li> <li>✔ Clinical Lab Science</li> </ul>	<ul style="list-style-type: none"> <li>✔ Political Science</li> <li>✔ History</li> <li>✔ Sociology</li> <li>✔ Music Education</li> </ul>	<ul style="list-style-type: none"> <li>✔ Organizational Leadership</li> <li>✔ Career and Technical Education</li> <li>✔ Health Education</li> <li>✔ Rehabilitation Services</li> </ul>	<ul style="list-style-type: none"> <li>✔ Mechanical Engineering</li> <li>✔ Systems Engineering</li> <li>✘ Computer Science</li> <li>✘ Computer Engineering</li> </ul>

Source: Education Advisory Board interviews and analysis.

Pictured above is an illustrative graphic depicting what the interface for a major suggestion tool—a potential next step for APSU—would look like. Advisors and students could easily identify majors where they are and are not predicted to have academic success based on data from previous students. In the Council’s view, the question for institutions focused on improving completion rates is not *whether* to implement analytics-based e-advising tools. Instead, the question is *how* to implement such tools so that they help more students complete their degrees in less time, but do not discourage them from taking challenging coursework or pursuing majors and careers in which they have a deep interest.



## Breaking the Cost-Customization Compromise

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### *III. Personalizing Advice*

Practice #4: Student Success Coaching Fellows

Practice #5: Transition Specialists

Practice #6: Customized Peer Success Pushes

## Next-Generation Advising

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*Elevating Practice for Degree Completion and Career Success*

### Balancing Exploration and Progress

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#### ■ Promoting Completion Efficiency

#1 Pre-major Exploratory Clusters

#### ■ Leveraging Success-Prediction Analytics

#2 Data-Based Degree Milestones

#3 Performance-Based Major Pathing

### Breaking the Cost-Customization Compromise

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#### ■ Personalizing Advice

#4 Student Success Coaching Fellows

#5 Transition Specialists

#6 Customized Peer Success Pushes

### Realizing Opportunities to Incorporate Career Advising

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#### IV Integrating Career Advising

#7 Discipline-Specific Cocurricular Maps

#8 Hybrid Advisor Positions

#9 For-Credit Career Development Courses

#10 Alumni-in-Residence Mentors

## Understanding Your Current Practice: Diagnostic Questions

These diagnostic questions reflect the essential ingredients of approaches used by best-practice institutions. Members may use them to determine if the full range of best practices is being used on their campuses and to evaluate whether absences represent an opportunity for investment or action.

### Breaking the Cost-Customization Compromise

Yes No

#### III. Personalizing Advice

- |   |   |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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| <ol style="list-style-type: none"> <li>1. Does the institution provide one-on-one success coaching for selected students? Is the coaching targeted at students with the highest need, such as freshmen students who have under a 2.0 GPA after their first semester?</li> <li>2. Does success coaching address the issues at the root cause of students' academic difficulties (e.g., poor study skills, time management problems)?</li> <li>3. Does success coaching focus on personalized goal setting, with coaches supporting students' goal attainment through monthly meetings and interim email and phone support?</li> <li>4. Are graduate students in counseling, education, and social work leveraged as coaches, providing them practice working holistically with undergraduate students in academic difficulty while helping to contain the costs of the success coaching program?</li> <li>5. Has the institution analyzed the transcripts of students with a GPA between 2.0 and 3.0 to identify students who meet overall academic requirements, but who are not making timely progress toward degree and may be in need of a new major?</li> <li>6. Does the institution provide specialized transition advisors to students in need of a new academic path?</li> <li>7. Do these transition advisors have broad knowledge of curriculum requirements, coupled with significant academic advising experience and high-level relationship-building and coordinating skills, to better support students' efficient transition to a new major?</li> <li>8. Do transition advisors carry a reduced caseload of advisees in light of the more intensive advising they are providing to students? Do they hold a more senior title and receive a higher level of compensation than other advisors in recognition of their advanced skills and responsibilities?</li> <li>9. Does your institution provide digital coaching services students in introductory STEM courses?</li> <li>10. Through the coaching service, do students receive regular, electronic communications that deliver course performance updates and customized, actionable guidance to students six to twelve times throughout the semester?</li> <li>11. Do these communications come in the voice of a peer student with whom the recipient student can identify? Are communications tailored according to the gender, age, and academic history of the recipient?</li> <li>12. Is the guidance students receive through the digital coaching program informed by insights and recommendations from previous students who did better than expected in the gateway STEM course?</li> </ol> | <table border="0"> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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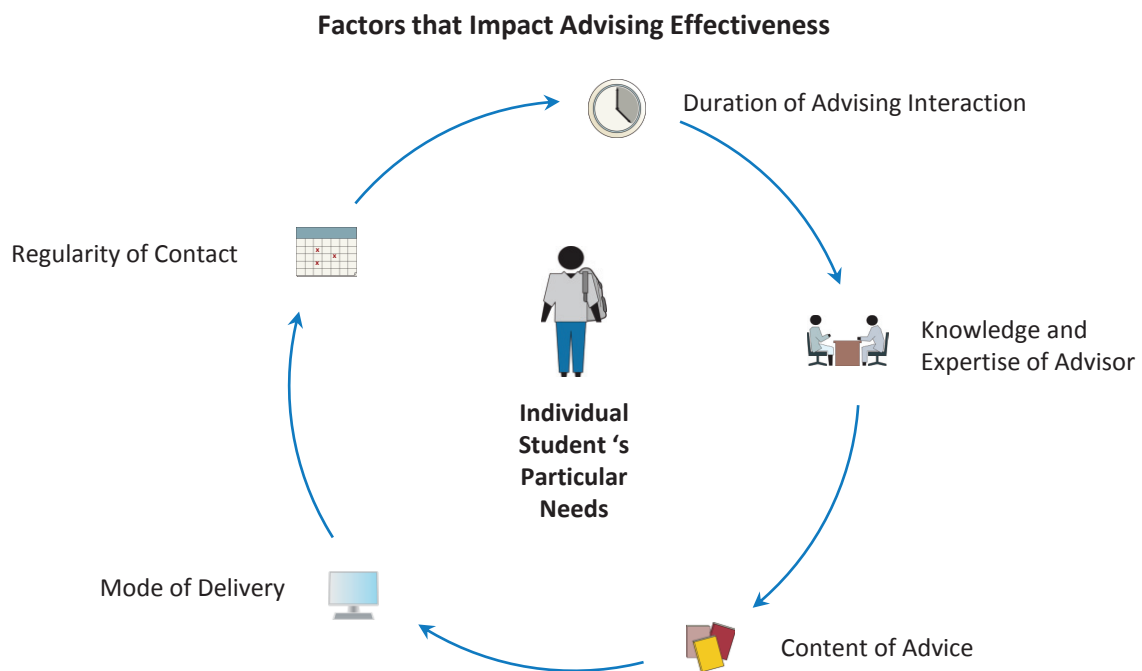
If you answered "No" to any of the above questions, please turn to:

Practice #4: Student Success Coaching Fellows. . . . .	43
Practice #5: Transition Specialists. . . . .	47
Practice #6: Customized Peer Success Pushes. . . . .	52

Advising services can be customized according to a variety of factors, from duration of advising session to mode of delivery. The more customized advising services are to a student's unique needs, the more likely the advice is to change student behavior, but providing individualized advice to students is a resource-intensive proposition. Thus, progressive institutions are personalizing services for the selected student populations that stand to benefit most from customized advising.

## Multiple Factors at Play

*Varying Student Needs Call for Differentiated Advising Approaches*



Source: Education Advisory Board interviews and analysis.

One population that institutions are focusing intensive advising resources on is students who obtain a semester GPA of below 2.0. Typically, when a student's semester GPA is below a 2.0, there is not a singular reason or isolated event that causes the student's pronounced academic difficulties. Instead, a variety of issues converge, ultimately causing the student to struggle in all of his or her courses during the semester.

## Converging Issues

*Struggling Students' Needs Often Numerous and Complex*

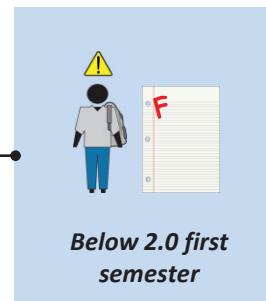
Many converging factors...

...lead to student in academic difficulty

High science aptitude but...  
**Poor study skills**

Completed all course readings but...  
**Test anxiety**

Means to attend tutoring sessions but...  
**Poor time management**




Source: Education Advisory Board interviews and analysis.

“Success coaching” methods have been proven through independent research to increase retention and graduation rates. In a success coaching model, students meet one-on-one with a professional advisor to holistically address the range of academic and non-academic issues causing them to perform poorly in all courses. Success coaches support students continually through a variety of modalities, including in-person meetings, phone sessions, and text and email exchanges.

## Effective, but Cost-Prohibitive

### *InsideTrack’s One-on-One Coaching Model Effective for Increasing Retention*

#### **Highly-Personalized “Success Coaching”...**



**Tailored Student Coaching Sessions**

- Goal setting (academic, personal, career)
- Study skills
- Time management
- Health issues
- Financial issues

**Customized to Each Institution**

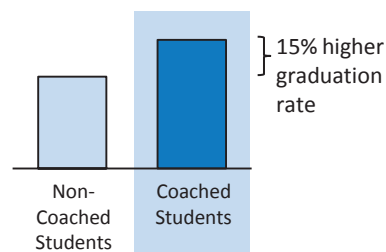
- Academic policies
- Institutional resources and services

**Over 350K+ Students Coached**

- Traditional and nontraditional students
- In-person, phone, text messages, social media

#### **...With Impressive Results...**

**InsideTrack Students  
Graduate at Higher Rate**  
(2011 Stanford School of  
Education Study; n=13,500)



#### **...But Unaffordable for Most**

**\$1,000**

Yearly Coaching  
Fee per Student

**\$1M**

Yearly Coaching  
Cost for Entire  
First-Year Class

Source: Bettinger, E.P. and Baker, R., “The Effects of Student Coaching in College: An Evaluation of a Randomized Experiment in Student Mentoring” *Stanford University School of Education* (May, 2011).

A 2011 study conducted by the Stanford University School of Education compared randomly selected, demographically balanced groups of students who were and were not receiving regular success coaching services from the commercial provider InsideTrack. The study found up to a 15% increase in the graduation rates of students who received success coaching services. While InsideTrack’s results are impressive, the provider’s services cost approximately \$1,000 per student per year—prohibitively expensive for a majority of institutions.



## Practice #4: Student Success Coaching Fellows

West Virginia University (WVU) has implemented success coaching services similar to those offered by commercial coaching providers such as InsideTrack. Coaches work one-on-one with students on the range of issues that are hampering their academic performance. By focusing on a limited population of students—only those students who have below a 2.0 GPA after their first semester—West Virginia is able to limit the cost of coaching services.

### Focusing on the First Year

#### *West Virginia University's Student Success Coaching Fellows*

##### Services Similar to Commercial Providers'...



##### Tailored Student Coaching Sessions

- Time management and study skills
- Goal setting
- Satisfactory Academic Progress compliance
- Learning preferences

##### Internal Resource Referrals

- Counseling
- Student Health Services

##### Establishing Actionable Goals

- Coachees bring proof of work toward goals to later sessions (e.g., new time management system, sleep log)

##### ...Focused on a Students with High "Turnaround Need"



**Limited population:** First-year students with under 2.0 GPA after first semester



**Regular contact:** Initial hour-long session followed by monthly 30-minute sessions, with email support between meetings



**Focused services:** Students work with coaches for one to two semesters

Source: Education Advisory Board interviews and analysis.

WVU's success coaches meet with students monthly for 30-minute coaching sessions. To spur incremental progress and encourage behavior change, coaches require students to bring evidence of their work toward personal and academic goals to each coaching session. Goals are tailored to each individual student's unique needs—from better time management to more regular sleep habits.

To further contain costs, instead of outsourcing success coaching, West Virginia University deploys graduate students from the fields such as counseling, social work, and education to serve as coaches. WVU's graduate student coaches are compensated with pre-qualified graduate funds and spend 20 hours per week on coaching activities.

## Tapping In-House Talent

*Graduates Students Trained as Coaches Work One-on-One with Coachees*



- Graduate students (counseling, social work, education, and arts & sciences)
- 20 hours per week
- Hourly wage plus health benefits
- Compensated with pre-qualified graduate fellowship funds

**20 coaches worked with ~580 students in spring 2012**

### **An Alternative to a Third-Party Vendor**

“A lot of schools in these budgetary times don’t have the resources to hire a third-party coaching vendor. We learned that coaching can be done relatively inexpensively and that you don’t have to hire a vendor to do it for you.”

*Dr. Bernadette Jungblut, Director of Assessment and Retention  
West Virginia University*

Source: Education Advisory Board interviews and analysis.

In spring 2012, 20 graduate student coaches worked holistically with a total of approximately 580 first-year students at WVU to support them in turning around their academic performance, maintaining their financial aid funding, and charting a successful path to graduation.




West Virginia University hopes to build on lessons-learned from the past year's success coaching implementation moving forward. Though the core of the success coaching model will remain the same, and graduate students will still focus on coaching first-year students in academic difficulty, a few programmatic changes are planned for the 2012–2013 academic year.

## Continuous Improvement

### *Building on Success Coaching Initiative's First Year*

#### 2012 WVU Success Coaching Implementation

#### Changes for the Next Year

60% of first-year students on academic probation enrolled in coaching		Coaching tied to eight first-year seminar sections, students awarded points for attending coaching sessions <b>Goal: Decrease first-year students on academic probation</b>
Academic advisors and success coaches maintain separate records of student interactions		Coaches, first-year seminar instructors, and advisors all use DegreeWorks as a central record-keeping system <b>Goal: Unified record of interactions with individual students</b>
Coaches request more training on issues such as disability services, communicating with parents, FERPA, etc.		Biweekly peer-to-peer brown-bag sessions where coaches and first-year seminar instructors share struggles and best practices <b>Goal: Improved coaching practice and retention of coaches</b>

Source: Education Advisory Board interviews and analysis.

In spring 2012, 60% of first-year students who qualified for success coaching ultimately participated in the program. In next year's implementation, coaching services will be offered to selected first-year students in conjunction with first-year seminar coursework. Coaches and academic advisors will also begin using the DegreeWorks program to keep a centralized record of interactions with students. WVU plans to host a series of bi-weekly brown-bag sessions where coaches can share challenges and best practices, receiving additional training on topics such as disabilities services and FERPA policies.

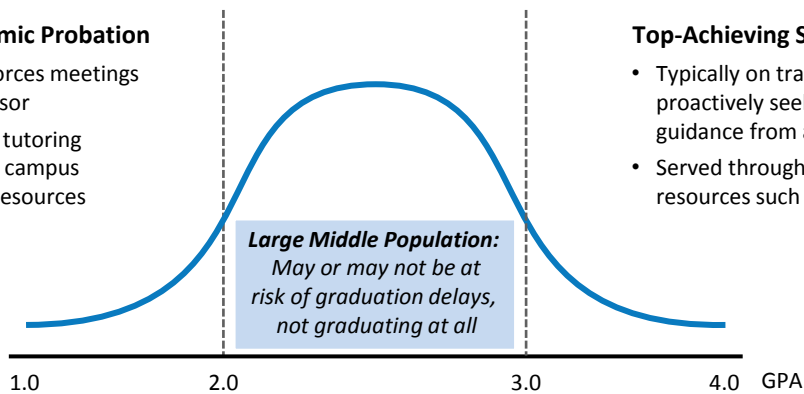
While students with over a 3.5 GPA are clearly on solid academic ground, and students who have a GPA under 2.0 definitely need support, students who are in the 2.0 to 3.0 zone may or may not be in danger of graduation delays.

## Lost in the Middle?

**Distribution of Undergraduate Student Population by GPA**  
*(Illustrative)*

### Students on Academic Probation

- Registration hold forces meetings with academic advisor
- Required to attend tutoring sessions and utilize campus academic support resources



### Top-Achieving Students

- Typically on track to graduate; proactively seek information and guidance from advisors if needed
- Served through dedicated resources such as honors program

Source: Education Advisory Board interviews and analysis.

## Practice #5: Transition Specialists

New student retention and completion goals prompted advising administrators at Georgia State University to examine these “middle ground” students more closely. Georgia State’s Institutional Research office conducted an analysis of the courses pattern of students in the 2.0 to 3.0 GPA range, finding a sizeable population of students enrolled in limited-access majors (e.g., nursing, business) who were passing courses each semester, but not making progress toward their degree.

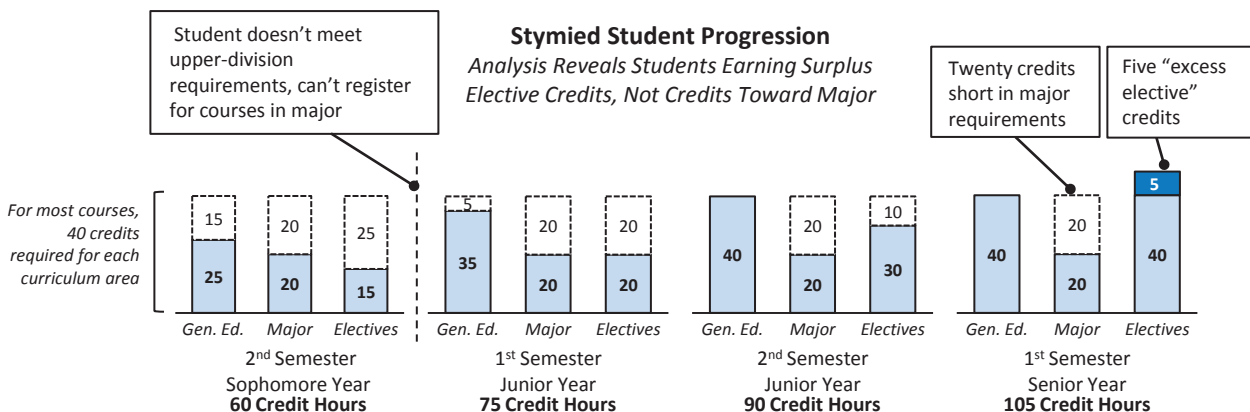
### Taking a Closer Look

#### New Completion Goals Prompt Closer Look at “Middle Ground” Students



#### Upon Inspection, Many Students Not Progressing

- Declared in limited-access major (e.g. nursing, business)
- Junior status (60+ student credits hours earned)
- GPA below threshold for enrollment in upper-division major courses (e.g. 2.5)



Source: Education Advisory Board interviews and analysis.

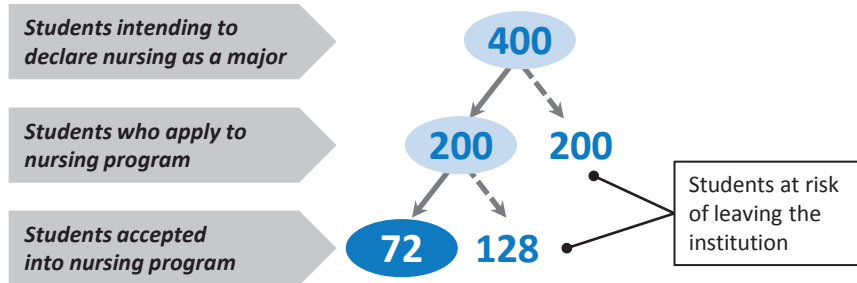
These stalled students had entered the institution declared in a limited-access major, but did not meet the requirements to enroll in upper-division courses in their major. Instead, they were taking a range of courses—usually from the College of Arts and Sciences—in order to maintain full-time status, and often in hopes of raising their GPA above the minimum required for their major. While these students were accumulating elective credits, they were not getting closer to their degree because they were not fulfilling major requirements.

While it is not uncommon for students who enter college in limited-access majors to need a new academic path, the advising conversations that redirect these students into a new major can be especially difficult. Realizing that students who do not meet the requirements of their upper-division major were at particular risk of leaving the institution, Georgia State created a new “transition advisor” role in 2011.

## The Best Laid Plans...

*Many Students in Limited-Access Majors Need New Path*

### Few Nursing Students Make Upper-Division Cut



#### A Delicate Conversation

“You have to help the student see that there is still a future for them at Georgia State and that their life’s dream isn’t over. There are a lot of other avenues that they can look into, but it’s a very delicate conversation.”

*Carol Cohen  
Director, Student Advisement Center  
Georgia State University*

Source: Education Advisory Board interviews and analysis.

The transition advisor role provides dedicated, more personalized support to students in need of a new major.

Georgia State's transition advisors have qualifications that differentiate them from institution's typical academic advisors. They are well-versed in the details of the institution's curricula and policies to ensure that students' progress to degree is not unduly impacted by the switch to a new major. Transition advisors also have experience with difficult advising conversations, bringing five or more years of advising experience to the position.

## A Dedicated Resource for Stagnating Students

### *Georgia State's Transition Specialists*



#### Key Elements of Transition Advisor Role

- **Broad knowledge** of various curricular requirements and policies across colleges
- **Depth of experience;** 5+ years advising undergraduate students; well-versed in especially difficult advising conversations
- **High-level relationship-building and coordinating skills;** ability to serve as “one-stop shop” for students in transition, liaising between:
  - Office of Academic Assistance
  - College Advising Office
  - Financial Aid Office
- **Reduced advising caseload;** 250- to 300-student caseload allows advisors to have intensive 1-1.5 hours conversations with students
- **Senior level;** title and compensation above advisor and senior advisor positions

Source: Education Advisory Board interviews and analysis.

Additionally, transition advisors are hired for their advanced coordinating and relationship-building skills, with the goal that they serve as a “one-stop shop” for students, working across offices to streamline transitions as much as possible. Because transition advising requires longer, more in-depth advising conversations with students, transition advisors also have a reduced caseload of students. In recognition of the advanced skills and expertise required in their role, transition advisors also receive a title and compensation above other academic advisors.



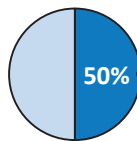


A third group of students who can particularly benefit from personalized advice are freshman and sophomore students who are intending to major in a STEM field. Nationally, half of all students planning to major in a STEM discipline do not ultimately graduate with a STEM degree; this drop-off primarily happens after students struggle in gateway courses in math, physics, chemistry, and biology.

## Washing Out Early

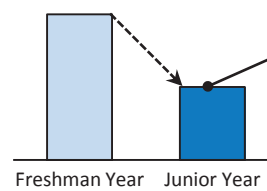
### STEM Major Attrition Common Across All Institutions

**Intended STEM Majors Who Fail to Complete in Major**



Nationally, more than half of students who begin studies intending to complete a degree in STEM disciplines fail to do so

**Number of Students Enrolled in STEM Majors**



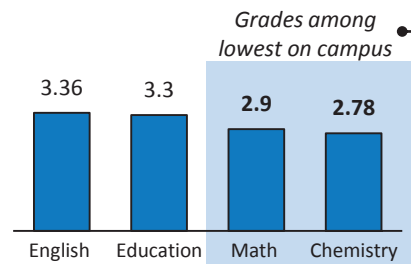
Drop-off most associated with gateway courses in math, physics, chemistry, and biology

#### The “Math-Science Death March”

“Freshmen in college waded through a blizzard of calculus, physics, and chemistry in lecture halls with hundreds of other students...The excitement quickly fades as students brush up against the reality of the ‘math-science death march,’ and then many wash out.”

*Emeritus Engineering Professor  
Large Research-Focused Public Institution*

**Introductory Course Grades by Department**



Source: Drew, C., “Why Science Majors Change Their Minds (It’s Just So Hard)” *New York Times* (November 4, 2011); Education Advisory Board interviews and analysis.

Across institutions, average grades in such gateway courses are meaningfully lower when compared to grades students receive from other departments. The support that students—especially those from populations traditionally underrepresented in STEM fields—receive during these introductory courses can very much influence whether they finish their intended STEM major.

## Practice #6: Customized Peer Success Pushes

At the University of Michigan, the Physics Department is working to retain students in STEM majors using tailored “digital coaching” techniques. Digital coaching—in which participants receive regular, personalized electronic communications encouraging them to work toward their stated goal—has been used for years in the public health field to support behavior change in areas such as smoking cessation and diabetes management.

### Combining Forces

*Digital Coaching Techniques Enable Personalized, Scalable Advice*



 <p><b>Dr. Timothy McKay</b> <i>Professor of Physics and Astronomy, Director of the LSA Honors Program</i></p> <p><b>Objective:</b> Support student behavior change for improved performance and persistence in Intro Physics</p>	 <p><b>Dr. Victor Strecher</b> <i>Founding Director, Center for Health Communications Research</i></p> <p><b>Objective:</b> Support patient behavior change for improved public health outcomes, e.g., weight loss, smoking cessation</p>
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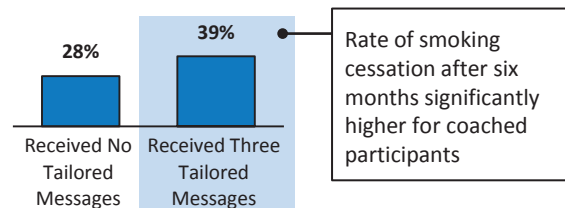
**Helping people achieve difficult, highly desirable goals through tailoring**



**Research-Based:** University of Michigan’s Center for Health Communications Research (CHCR) pioneered use of tailored electronic communications to support behavior change

**Proven Outcomes:** Body of research supports effectiveness of strategies in areas such as smoking cessation and diabetes management

#### Smoking Cessation Results



Source: Health Media Solutions, <http://www.healthmedia.com/products/index.htm>; Education Advisory Board interviews and analysis.


The idea to use digital coaching techniques to motivate students in Introductory Physics courses at Michigan came from the institution’s own School of Public Health. While attending an institution-wide awards ceremony, Dr. Timothy McKay, a professor of physics, learned about the work of Dr. Victor Stretch, a professor in the School of Public Health. Dr. Stretch had created a digital health coaching system known as the Michigan Tailoring System (MTS). Dr. McKay realized that a technique that had helped individuals to meet difficult health goals might also help students be more motivated and perform better in Introductory Physics.

Featured below is an example of a tailored message used in digital coaching program for smoking cessation. Each coaching message is customized for the recipient based a variety of elements; in the communication below, the advice comes from Deb, a person who is similar in age, gender, ethnicity, marital status, and motivation to the message recipient.

## Supporting Behavior Change Electronically

### *Digital Coaching Techniques Enable Personalized, Scalable Advice*

#### Tailored Communication Supporting Smoking Cessation



**Rhonda**, as we come to the end of Project Quit guide, we'd like to leave you with some words of advice from Deb. [Like you, she was ready to quit smoking](#) but faced many challenges. Here is her story.

**Why did you decide to quit?**  
I had several good reasons for quitting. First, we needed to save money to put towards a car that would actually work. [Second, my husband wanted me to.](#) Third, I didn't like leaving the fun when I'd have to step outside to smoke at places that didn't allow smoking inside. It made me feel like an outcast.  
[Plus, it wasn't really fair to the kids for me to tell them not to smoke while I did. "Do as I say, not as I do" isn't such a great example to set.](#)

**How did you prepare for the change?**  
I had heard you have to change what you do and how you think to stop smoking, so I wanted to try something I actually thought I could do to help me quit. So about two weeks before I was going to quit, I began to walk first thing in the morning. I don't normally smoke right before or after exercising, so that helped me delay my first smoke of the day.

**Did you try anything else as your quit day approached?**  
Yes, I usually smoked about [a pack and a half a day](#), but started cutting a few out each day just to see how I'd do. I'd make a game out of it by trying to drive to work without a cigarette. Then, if I really needed it, I'd have one on the way from the parking lot to the office. I also cut back on [going to the bar or parties](#) where I knew there would be a lot of smoking. And I began to skip my "dessert" cigarette before bed.

**Did these things help?**  
Definitely. By the time I quit, I was walking four mornings a week and beginning to feel better already.

**Did you ask for help?**  
I told my cousin Jason that I was going to need some help. If I say I'm going to do something, [he doesn't cut me much slack until I do it](#), which is exactly what I needed. We spent a lot of time at the movies, sitting in non-smoking sections of restaurants, and hanging out in other places that wouldn't tempt me. Of course, all I really needed to do was take one good look at my kids to make me feel good about my decision.

#### Tailoring Variables

- Name
- Age, Gender, Ethnicity
- Motivation for Quitting
- Marital and Household Status
- Cigarettes smoked
- Barriers to quitting
- Social support



**Extensively Commercialized:**  
Digital health coaching services now widely available—and often covered by insurance providers—for supporting behavioral health, disease management, and wellness




Source: Education Advisory Board interviews and analysis.

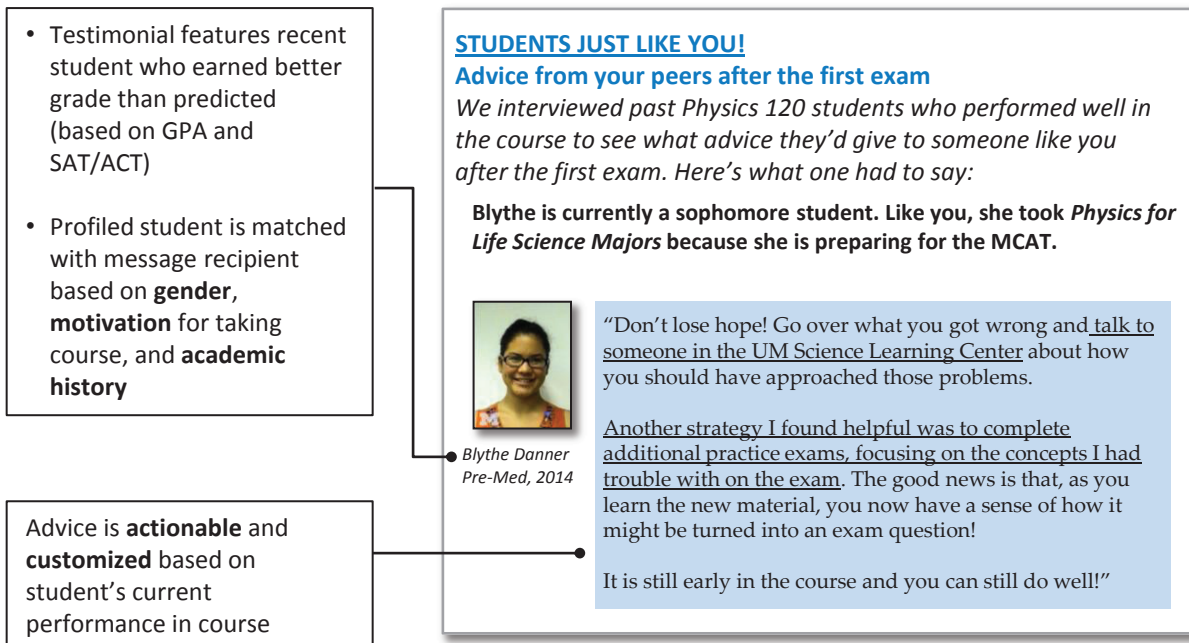
A solid research base supports the effectiveness of digital health coaching in helping participants tackle difficult challenges. For instance, subjects who received at least three tailored coaching messages quit smoking at a significantly higher rate when compared with individuals who did not receive any coaching. Digital coaching techniques have been extensively commercialized and are covered by many health insurers for supporting behavioral health, disease management, and wellness.

Dr. McKay and his team used the same tailoring principles used in digital health coaching to craft messages to help students in Introductory Physics courses improve their motivation and class performance. Students receive tailored messages 12 times throughout the semester. These prompts come in the voice of an Intro Physics student who is similar to the recipient in areas such as gender, ethnicity, and reason for taking the course.

## Taking a Page Out of Public Health's Book

### The University of Michigan's Customized Peer Success Pushes

#### Personalized Student Web Portal (Illustrative)



Source: *ECoach University of Michigan* "Expert Electronic Coaching at UM: Winter 2012 implementation," [http://sitemaker.umich.edu/ecoach/winter\\_2012\\_implementation](http://sitemaker.umich.edu/ecoach/winter_2012_implementation), Education Advisory Board interviews and analysis.

Messages include specific, actionable guidance and encouragement aimed at positively influencing student motivation and study strategies. The coaching program is set up so that students receive tailored messages through the same web portal that they use to access their updated course grade information.

To administrate the delivery of tailored messages to students throughout the semester, Dr. McKay and his team used The Michigan Tailoring System (MTS), an open-source software package that allows anyone from inside or outside the Michigan community to develop tailored, scalable content for electronic delivery. Step-by-step videos on the MTS website walk users through the process of collecting recipient information and customizing content.

## Free for All

### *Michigan's Tailoring Software Available Open Source*

**Michigan Tailoring System:**  
*Open Source Software Package for  
Developing Tailored, Scalable Content*



Available for Download at:  
<http://chcr.umich.edu/mts/>

- **Simple:** Step-by-step videos walk users through straightforward process of:
  - collecting recipient information
  - uploading and tagging messages/testimonials
  - programming message settings (i.e., number and timing of messages)
- **Compatible:** Software works with both Windows and Mac OS
- **Free:** Uses open source licenses

Source: The Michigan Tailoring System, <http://chcr.umich.edu/mts/>; Education Advisory Board interviews and analysis.

To build the database of tailored communications that each student receives throughout the semester through the MTS, Dr. McKay and his team began by interviewing previous Introductory Physics students who had performed better than expected in the course about their study techniques. The guidance provided by past students was supplemented with advice from additional undergraduates and faculty members, as well as research on education, psychology, and behavior change.

## Creating a Database of Proven Strategies

### *Michigan Produces Catalog of Student-to-Student Course Advice*

#### Michigan's Key Steps for Building Advice Database:

1



#### **Find Performance Outliers**

- Identify students who perform “better than expected” in course via simple algorithm (institutional GPA typically most predictive factor)

2



#### **Collect Proven Strategies**

- Interview outlier students about study habits and strategies used to achieve better-than-expected results
- Supplement insights and advice with information from:
  - Advanced undergraduates, such as those who lead study groups
  - Faculty who teach course
  - Research from education, psychology, and behavior change theory

3



#### **Synthesize Advice**

- Combine information gathered through interviews and research to create student testimonials; focus on actionable advice



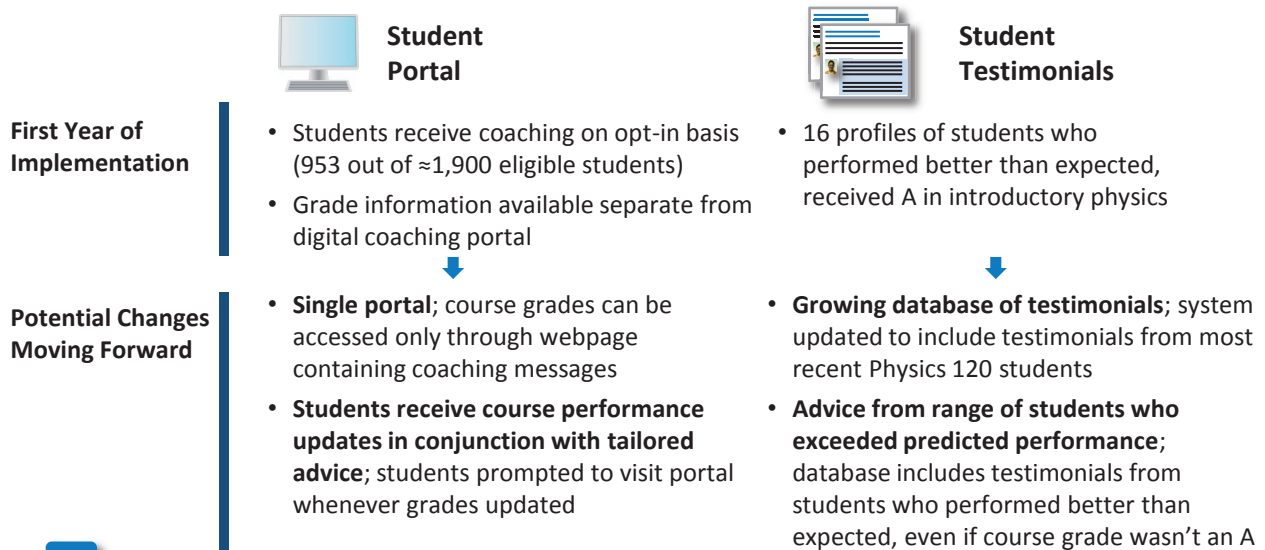
**Result:** Database of 100+ unique composite testimonials, applicable at different key points during the semester (e.g. after first quiz, after midterm), tagged according to student profile characteristics

Source: Education Advisory Board interviews and analysis.

After synthesizing the advice collected from interviews and background research, Michigan's Physics Department created a database of over 100 composite testimonials applicable to students from a range of academic backgrounds who are taking Intro Physics for a variety of reasons.

During the 2011 to 2012 academic year 1,000 Intro Physics students voluntarily participated in the initial implementation of Michigan’s digital coaching initiative. Moving forward, Michigan is considering making student course grade information available only through the portal where students receive coaching messages, thereby prompting more students to access coaching content on a regular basis.

## Refining Implementation for Next Year’s Students



### Salient Voices

“Something we learned from public health people who do this work is that, when you give advice or feedback, the voice that feedback comes from is actually really important. One of the strengths of this system is that we’ve been able to deliver very salient voices to students.”

*Dr. Timothy McKay, Arthur F. Thurnau Professor of Physics  
University of Michigan*

Source: Education Advisory Board interviews and analysis.

Michigan also plans to grow the database of coaching messages, incorporating advice from additional recent Intro Physics students, and expanding the range of students who are interviewed for advice to students who may not have gotten a A for a final course grade, but who still did better than expected in the course based on a simple predictive algorithm.







## Realizing Opportunities to Incorporate Career Advising

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### *IV. Integrating Career Advising*

Practice #7: Discipline-Specific Cocurricular Maps

Practice #8: Hybrid Advisor Positions

Practice #9: For-Credit Career Development Courses

Practice #10: Alumni-in-Residence Mentors

## Next-Generation Advising

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*Elevating Practice for Degree Completion and Career Success*

### Balancing Exploration and Progress

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#### I Promoting Completion Efficiency

#1 Pre-major Exploratory Clusters

#### II Leveraging Success-Prediction Analytics

#2 Data-Based Degree Milestones

#3 Performance-Based Major Pathing

### Breaking the Cost-Customization Compromise

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#### III Personalizing Advice

#4 Student Success Coaching Fellows

#5 Transition Specialists

#6 Customized Peer Success Pushes

### Realizing Opportunities to Incorporate Career Advising

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#### IV Integrating Career Advising

#7 Discipline-Specific Cocurricular Maps

#8 Hybrid Advisor Positions

#9 For-Credit Career Development Courses

#10 Alumni-in-Residence Mentors

## Understanding Your Current Practice: Diagnostic Questions

These diagnostic questions reflect the essential ingredients of approaches used by best-practice institutions. Members may use them to determine if the full range of best practices is being used on their campuses and to evaluate whether absences represent an opportunity for investment or action.

### Realizing Opportunities to Incorporate Career Advising

Yes No

#### IV. Integrating Career Advising

- |   |                          |                          |
|---|--------------------------|--------------------------|
| 1. Does your institution provide students with one-page, major-specific visual documents that contain year-by-year guidance that integrates academic, cocurricular, and career advice?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Does each guide feature cocurricular opportunities and career possibilities that are related to the specific content of each major?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Are these one-page guides distributed across campus and used by academic advisors, career advisors, and faculty members to provide students with consistent, integrated guidance beginning their first year? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Does the institution staff advisors who are cross-trained to provide students with integrated academic advice and career advice to students beginning their first year?                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Are these advisors assigned to work with the students most likely to benefit from early, integrated academic and career advising (e.g., liberal arts majors, students who are undecided about their major)?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Does your institution offer students a sequence of four for-credit career development courses beginning their first year?  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. Does the course sequence begin with content to help students self-assess their values, interests, and strengths in order to make more intentional academic and career decisions?                             | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Does the content of the course sequence encourage students to begin exploring careers and networking early in their college experience so they are better prepared for their job search?                     | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Does the final course in the sequence contain content on personal and professional skills students will need after graduation, such as on-the-job communication and personal budgeting?                      | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. Does your institution offer students the opportunity to interact one-on-one or in a small group with accomplished alumni mentors who share common backgrounds or career interests?                          | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. Are alumni mentors selected both for their record of accomplishment and for their ability to connect with and inspire students?   | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. Are alumni mentors hosted on campus for multiple days in order to maximize the opportunities that students have to interact with them and receive personalized advice?                                      | <input type="checkbox"/> | <input type="checkbox"/> |

*If you answered "No" to any of the above questions, please turn to:*

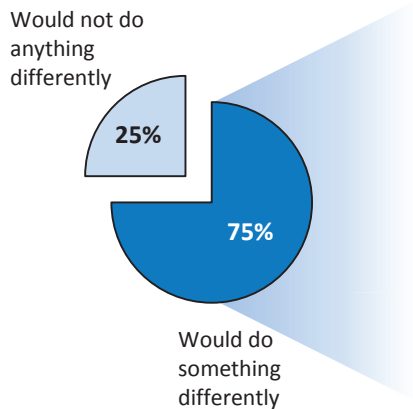
Practice #7: Discipline-Specific Cocurricular Maps.....	65
Practice #8: Hybrid Advisor Positions .....	68
Practice #9: For-Credit Career Development Courses.....	72
Practice #10: Alumni-in-Residence Mentors .....	75

A 2012 study completed by Rutgers University surveyed a nationally representative sample of recent college graduates to understand how new graduates are faring in the current job market. While few recent grads voiced regrets about their decision to go to college or the institution they had chosen, a significant percentage regretted the way they had prepared for career and conducted their job search.

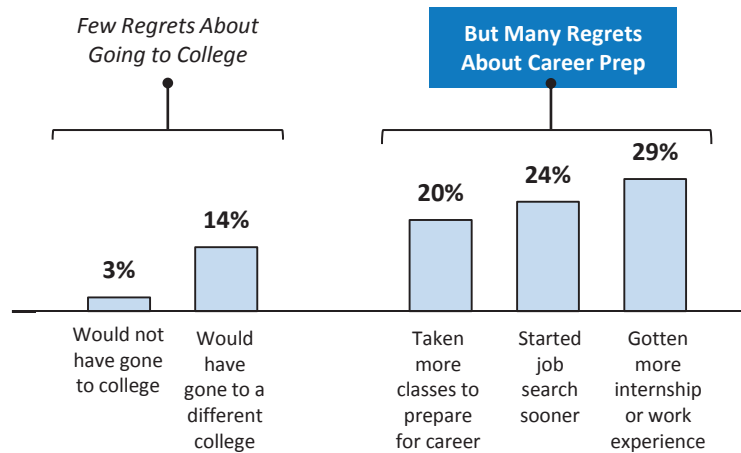
## “If I Could Redo My College Experience...”

### *In Retrospect, Grads Would Have Prioritized Career Planning*

#### Most Students Want a “Do-Over”



#### Recent Grads Wish They Had Prepared More for Career, Earlier

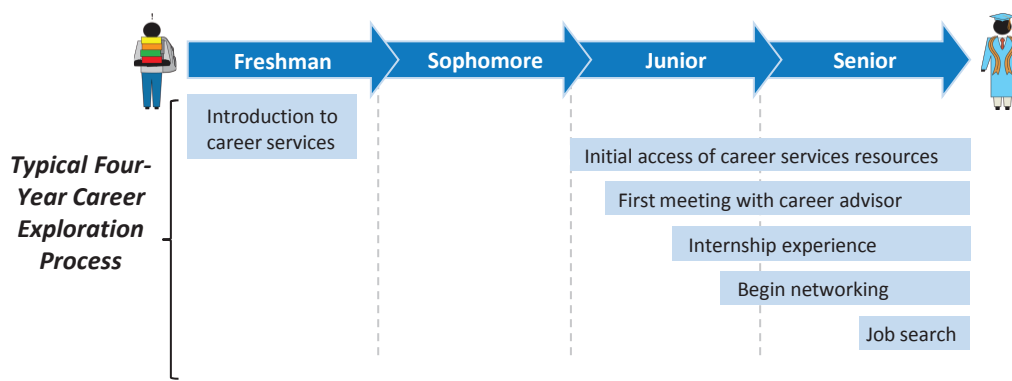


Source: Horn, C.V., Stone, C., and Zukin, C., “Chasing the American Dream: Recent College Graduates and the Great Recession,” *John J. Heldrich Center for Workforce Development* (2012); Education Advisory Board interviews and analysis.

Specifically, survey respondents wished they had started their job search sooner, taken more classes that would have prepared them for career, and completed more work-related experiences, such as internships, while in college.

Although career resources are usually available to students as first year students, most students fail to utilize campus career services until after their sophomore year. As a result, many students choose their major without considering the career implications, fail to take advantage of resume-building opportunities in their first two years of study, and scramble to find a job during their final semester of college.

## Career Resources Available, but Often Accessed Late



### Consequences of Late-Stage Career Preparation

- ⚠️ Uninformed:** Selects major based on limited understanding of career paths or interests
- ⚠️ Unintentional:** Fails to plan for internship experiences, receives no guidance after placement
- ⚠️ Unaware:** of resume-building opportunities available in first two years
- ⚠️ Unprepared:** Career exploration begins too late; job search happens in final semester

Source: Education Advisory Board interviews and analysis.

Adolescents may be naturally inclined to put off planning, but the way university career services are structured on most campuses—with the majority of services focused on students in their third and fourth year of college—does not encourage students to plan ahead for a career.

When students do receive career guidance at the beginning of their academic careers, that advice often comes in the form of a vague and superficial career planning checklist. Suggested cocurricular and career planning activities are unrelated to the academic disciplines students are studying and separate from the academic guidance they are getting about course choices or potential majors.

## One Size Does Not Fit All

### *A Missed Opportunity for Integrated Advising*

**Semester-by-Semester Curriculum Plan**  
*Chemistry*

*The following is a sample course of study. It is the student's responsibility to ensure that all program requirements are met. The guide is not a checklist for student advisors.*

*Your path to graduation may vary based on factors such as college credit you earned while in high school, transfer work from other institutions of higher learning and placement in Mathematics. You are responsible for checking prerequisites in any courses.*

Course	Prerequisites	Notes
CHM 101	None	General Chemistry I
CHM 102	CHM 101	General Chemistry II
CHM 201	CHM 102	Organic Chemistry I
CHM 202	CHM 201	Organic Chemistry II
CHM 301	CHM 202	Physical Chemistry I
CHM 302	CHM 301	Physical Chemistry II
CHM 401	CHM 302	Advanced Organic Chemistry
CHM 402	CHM 302	Advanced Physical Chemistry
CHM 403	CHM 302	Advanced Inorganic Chemistry
CHM 404	CHM 302	Advanced Analytical Chemistry
CHM 405	CHM 302	Advanced Biochemistry
CHM 406	CHM 302	Advanced Environmental Chemistry
CHM 407	CHM 302	Advanced Materials Chemistry
CHM 408	CHM 302	Advanced Polymer Chemistry
CHM 409	CHM 302	Advanced Surface Chemistry
CHM 410	CHM 302	Advanced Colloid Chemistry
CHM 411	CHM 302	Advanced Nanotechnology
CHM 412	CHM 302	Advanced Catalysis
CHM 413	CHM 302	Advanced Reaction Kinetics
CHM 414	CHM 302	Advanced Thermodynamics
CHM 415	CHM 302	Advanced Statistical Mechanics
CHM 416	CHM 302	Advanced Quantum Chemistry
CHM 417	CHM 302	Advanced Molecular Spectroscopy
CHM 418	CHM 302	Advanced X-ray Crystallography
CHM 419	CHM 302	Advanced Electron Microscopy
CHM 420	CHM 302	Advanced Neutron Scattering

**Career Planning Checklist**

**First Year:**

- Explore and engage in campus activities.

**Second Year:**

- Consider engaging in a summer internship or employment.
- Pursue leadership opportunities on and off campus.
- Join student organizations and professional associations related to your intended career field.
- Conduct informational interviews.

**Third Year:**

- Complete an internship relating to your career interests.
- Research graduate programs and prepare for and take the necessary entrance exam.

**Fourth Year:**

- Engage in a culminating internship experience.
- Network with college alumni in your field of interest.
- Utilize Career Services resources to assist with the job search and interview process.

**Academic Guidance**

**Typical Career-Planning Checklists Too Vague**

- Not Detailed:** Recommendations are superficial and common-sense
- Not Specific:** Cocurricular suggestions are unrelated to selected area of study
- Not Relevant:** Career planning activities not linked to specific job possibilities for major

Source: Education Advisory Board interviews and analysis.

## Practice #7: Discipline-Specific Cocurricular Maps

To provide students with specific, actionable information about majors and related cocurricular opportunities and careers, and as part of an institution-wide focus on new retention goals, in 2006 Georgia State University's College of Arts and Sciences undertook an effort to create discipline-specific cocurricular maps for all 30 of majors within the College of Arts and Sciences.

### Integrated Academic and Cocurricular Guidance Georgia State's Discipline-Specific Cocurricular Maps



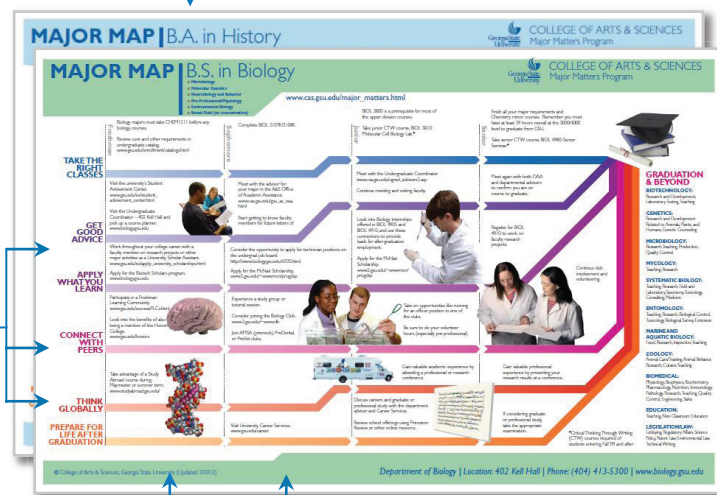
#### Unique to Major

- Individual map for each of the 30 Arts and Sciences majors
- Curricular and cocurricular content specific to each discipline
- Supplements academic planning tools and course catalog

#### Integrated Cocurricular Opportunities

*"Join the Biology, Pre-Dental, or Pre-Vet clubs.  
www2.gsu.edu/~wwwclb"*

- Suggested on- and off-campus activities are associated with content of major courses



#### Career Possibilities Associated with Discipline

*"Research and Development, Laboratory Testing, Teaching"*

- Lists relevant career paths open to students in particular major

#### Promotes Early Planning

*"Take advantage of a Study Abroad course during Maymester or summer term."*

- Cocurricular prompts begin in first year

Source: Education Advisory Board interviews and analysis.

The cocurricular maps provide year-by-year guidance spanning all four years of a student's college experience. Beginning the first year, prompts encourage students to start planning for activities which require advance preparation, such as study abroad. The maps also list career possibilities associated with each major, promoting earlier career thinking and planning.

Full versions of Georgia State's Major Maps can be accessed thru the College of Arts and Sciences website at [http://www.cas.gsu.edu/major\\_maps.html](http://www.cas.gsu.edu/major_maps.html).

In addition to creating the maps for each arts and sciences major, Georgia State has worked hard to ensure that the maps are accessed across campus by the range of faculty and staff who provide guidance to students. The maps serve as a common reference point for academic advisors, faculty advisors, and career advisors to ensure that students receive information and recommendations that are consistent, accurate, and relevant.

## Multiple Points of Access

*Maps Referred to Across Campus and Throughout the Four Years*



**Advising  
Appointments**



**Informational  
Booth**



**Academic  
Departments**



**Recruiting  
Activities**



**Online**

### Students use maps to:

- ✓ Prioritize cocurricular activities related to studies
- ✓ Plan ahead for cocurricular experiences
- ✓ Understand related career opportunities

### Advisors use maps to:

- ✓ Illustrate cocurricular opportunities
- ✓ Remind themselves of relevant requirements and opportunities
- ✓ Prompt students to plan for career

Source: Education Advisory Board interviews and analysis.

Georgia State has also worked with various campus constituencies to ensure maps are referenced throughout the entirety of a student's academic experience. Beginning freshman year, academic advisors use maps to help students compare and contrast various majors and related cocurricular activities and career paths. Once a student has declared a major, faculty advisors can use the maps to illustrate cocurricular opportunities and remind students of relevant academic requirements.

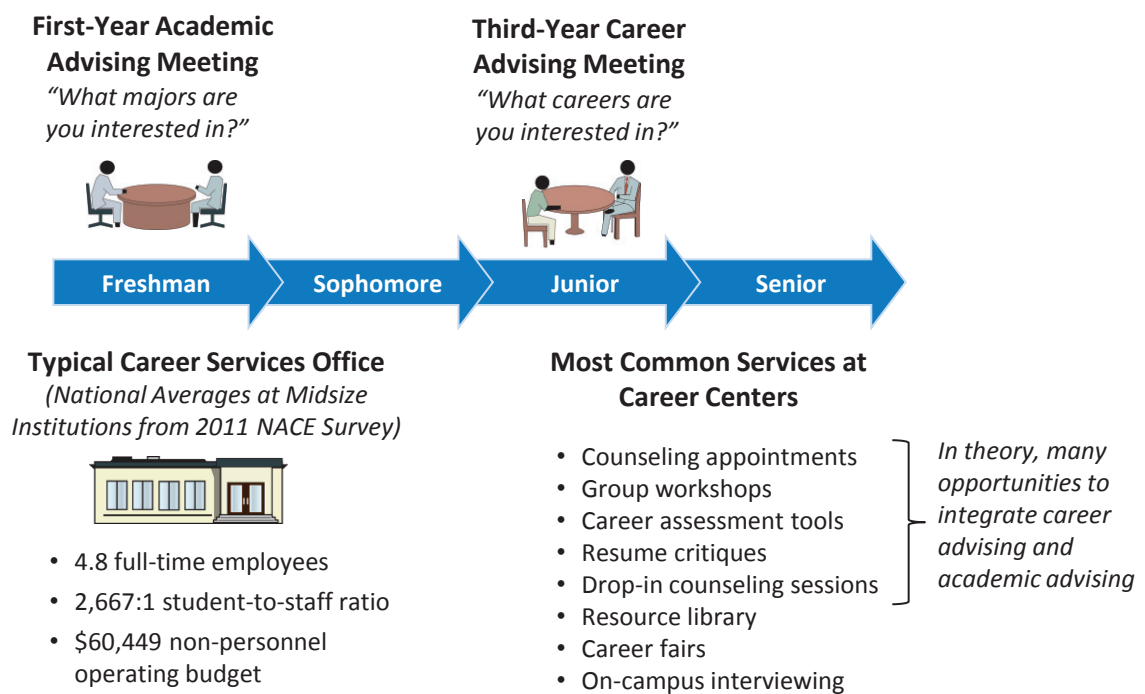
In addition to being a tool for students, the maps also serve to remind faculty advisors about discipline-specific requirements and opportunities they may not be current on.



Though organizational barriers hinder the integration of academic and career advising, many of the services most commonly provided by career centers—career counseling, resume critiques, and career assessments—could, theoretically, be performed by professional academic advisors in conjunction with academic advising conversations. When viewed from the student perspective, it makes little sense to structure advising sessions about major selection separately from conversations about career possibilities.

## Separate but Related

### *Organizational Boundaries Impede Integrated Advising Conversations*



Source: NACE 2010-11 Career Services Benchmark Survey for Four-Year Colleges and Universities, February 2011; Advisory Board interviews and analysis.

In addition to organizational barriers, capacity constraints in the career services office prevent students from receiving ongoing career development beginning their first year. The typical career services office at a midsize institution operates with a student-to-staff ratio of over 2,500 to 1. At most institutions, if a student does meet with a career counselor at all, it is usually during his or her junior or senior year, and only because he or she has sought career guidance proactively.

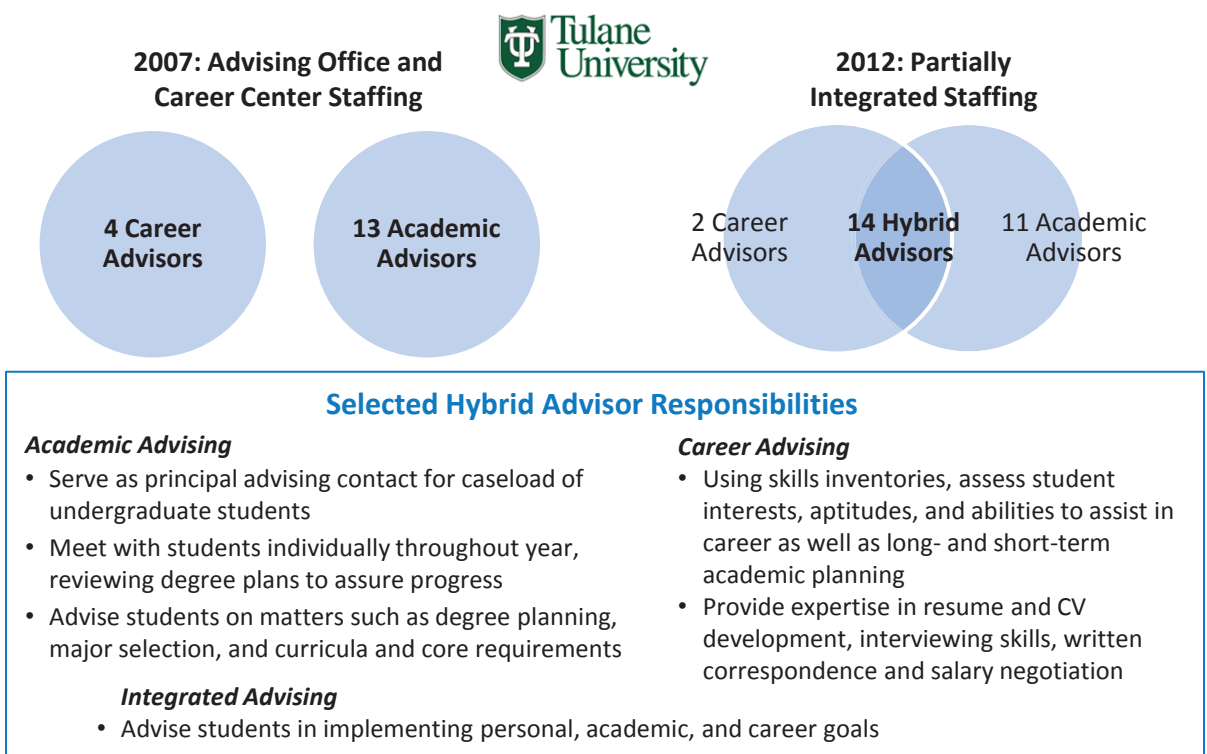
Despite the myriad cultural and practical considerations which deter institutions from integrating academic and career advising, our next case study profiles an institution that has made incremental, yet significant, progress toward offering students a truly cohesive career and academic advising experience.

## Practice #8: Hybrid Advisor Positions

When Dr. Amjad Ayoubi, who now oversees academic and career advising at Tulane University, arrived at the institution in 2006, Tulane was typical of most institutions of its size. Thirteen academic advisors assisted all students with academic advising, and four career advisors staffed a separate career services office. Over the past five years Dr. Ayoubi has migrated Tulane’s advising staff toward a more integrated model.

### Bridging the Structural Divide

#### Tulane’s Hybrid Advisor Positions



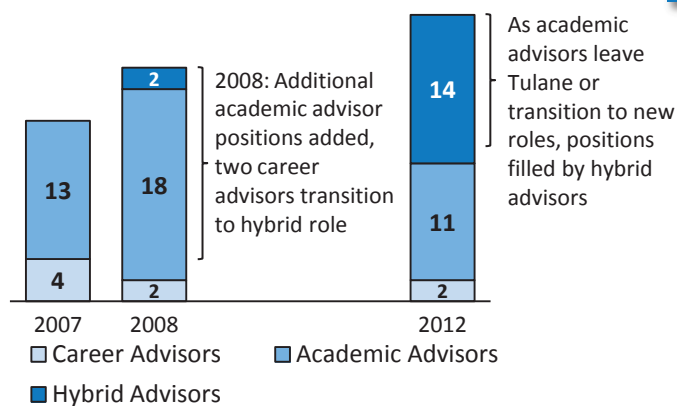
Currently, 14 “hybrid” advisors serve as a single point of contact for the academic advising and career development needs of selected populations of students. The hybrid advisor role combines elements of both academic advising and career advising, with the additional benefit of serving an integrated advising function, advising students on their academic, career, and personal goals in concert.

In 2007 Dr. Ayoubi proposed a new advising structure with the twin goals of reducing advising ratios and better integrating advising; Provost Michael Bernstein granted him funding for five additional advisor positions. Since that time, Dr. Ayoubi has been adding hybrid advisors to his staff at rate of about two per year. As academic advisors transition out of their role, hybrid advisors are hired to fill the vacancy.

## Implementing Incrementally

*Progressing Toward Integrated Advising One Year at a Time*

**Gradually Adding Hybrid Advisors**  
Tulane's Advising Staff Positions, 2007-2012



**\$250K**

Tulane's initial investment in new advising structure

**\$39K**

Hybrid advisor annual salary (career and academic advisors earned \$32K per year)

**+4%**

Increase in first-year retention rate from 2007 to 2008

### Targeting the Greatest Need

"Because students majoring in business, science, public health, and engineering tend to have a clearer picture of their career direction, we focused our hybrid advisors on other populations: students who are undecided about their major, students pursuing pre-professional careers, liberal arts students, and students who are at risk academically.

*Dr. Amjad Ayoubi, Executive Director of Career and Academic Advising  
Tulane University*

Source: Education Advisory Board interviews and analysis.

To maximize the impact that integrated advising has on students, Tulane focused hybrid advisors on the student populations that tend to have the greatest career advising needs early on: students who are undecided about major, pre-professional students, and students majoring in liberal arts disciplines.

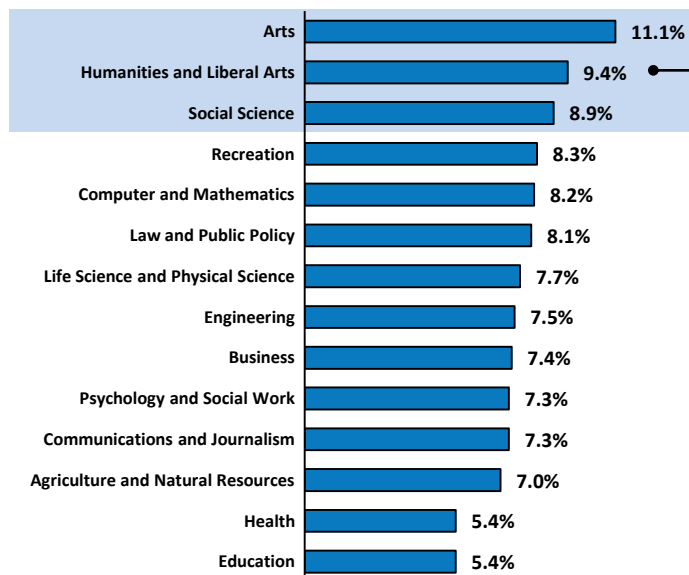
Dr. Ayoubi will be the first to say that implementation of the hybrid advising structure has not been without its challenges, and that it required a lot of up-front effort and coalition-building to get off the ground. His initial efforts were buoyed after Tulane saw a 4% gain in first-year retention from 2007 to 2008, attributed in part to the new advising structure.

Historically, when the US economy has been in decline, recent graduates with liberal arts degrees have been disproportionately affected in the job market. The most recent downturn was no exception; in 2010, unemployment rates for recent graduates who majored in the liberal arts and humanities were higher than for graduates from other disciplines, prompting a series of headlines questioning the value and sustainability of the liberal arts model.

## Liberal Arts on the Ropes (Again)

### *Non-Technical Majors Struggle More in Tough Job Market*

**Unemployment Rates for Recent College Graduates by Major, 2010**



#### A Riskier Proposition...

Unemployment highest among non-technical majors

#### ...And a Hot Topic in the Media

"Is There Any Value to a Liberal Arts Education?"  
*Huffington Post, May 2012*

"So You Have a Liberal Arts Degree and Expect a Job?"

*PBS NewsHour, January 2011*

"Is It Time to Kill the Liberal Arts Degree?"

*Salon.com, June 2011*

Source: Carnevale A.P., Cheah B., Strohl J., "College Majors, Unemployment, and Earnings: Not All College Degrees Are Created Equal," *Georgetown University Center on Education and the Workforce* (Jan 2012); Education Advisory Board interviews and analysis.

The pressure from the economic downturn has caused institutions—especially small to midsized privates—to examine how liberal arts graduates are faring in the current economy and to re-strategize how they communicate the value of a liberal arts education. Across 2011 and 2012, career development has been a hot topic at regional and national meetings.

## Enhancing the Value of a Liberal Arts Degree

### *Career Advising an Especially Hot Topic for Private Institutions*

#### Private Institutions with Recent Career Development Initiatives



#### Regional and National Career Meetings

- Rethinking Success: From the Liberal Arts to Careers in the 21<sup>st</sup> Century
- Ivy Plus Meeting
- Selective Liberal Arts Consortium (SLAC)
- Town hall session at 2011 NACE Conference and Expo
- Intern Bridge Conference

#### Key Questions at Wake Forest’s “Rethinking Success” National Meeting, April 2012:

- *How are liberal arts students faring in the market today vs. 10, 20, and 30 years ago?*
- *How does the economic value of specific majors compare to the financial investment?*
- *What practical skills do well-prepared liberal arts students bring to the marketplace, and how do we best communicate those?*

Source: Education Advisory Board interviews and analysis.

Perhaps most notably, in April 2012 Wake Forest University hosted the national conference “Rethinking Success: From the Liberal Arts to Careers in the 21st Century.” Over 250 leaders from higher education, government, and the corporate world gathered at the three-day conference to discuss the value of a liberal arts education in 21st century careers. Attendees reviewed employment data and market trends and discussed strategies for re-envisioning the liberal arts degree in light of current and predicted workforce needs.

## Practice #9: For-Credit Career Development Courses

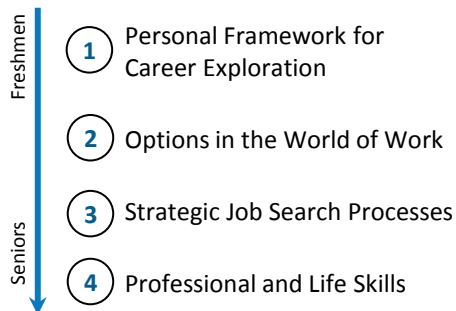
The Rethinking Success conference was part of a broader initiative at Wake Forest focused on integrating career development within the institution's liberal arts curriculum. To help guide students' career exploration from their initial days on campus, Wake Forest's recently created Office of Personal and Career Development (OPCD) has developed a sequence of four 1.5-credit "College to Career" courses, available to students beginning their first year.

### Folding It into the Curriculum

#### Wake Forest's For-Credit Career Development Courses



#### Four 1.5-Credit Career Courses, Sequence Available to All Students



#### Connecting Studies with Career Aspirations and Skills for Beyond the Classroom:

- **Self-assess:** Identify personal values, strengths, and beliefs to inform decisions about majors, careers, and lives
- **Explore and network:** Explore careers aligned with personal framework, begin building professional network
- **Start your search:** Apply job search frameworks and marketing techniques (resume, social media, interviewing)
- **Plan for the future:** Develop personal action plan for balancing work and life (topics include time and project management, on-the-job communication, and personal budgeting)

Source: Education Advisory Board interviews and analysis.

The sequence begins with a course in which students assess their values, strengths, and beliefs to better ground their major decision-making and career exploration processes. By sophomore year, students are exploring careers and networking so that they are well positioned to begin their job search; job search strategies and marketing techniques is the focus of the third course. The fourth course in the sequence is forward-looking, addressing topics such as work-life balance and professional skills, and focused on the knowledge and skills students will need to transition to the world of work.

Since the Office of Personal and Career Development was established in 2010, Vice President Andy Chan, who heads the office via a cabinet-level position, has raised \$5 million in endowment funds. Clearly, the office's goal of better integrating career development in students' academic experiences has resonated with alumni and other donors.

## A Major Effort and Investment

*New Office Signals Institution-Wide Commitment to Career*

### Office of Personal and Career Development

**Mission:** Teach, advise, and equip all Wake Forest students to successfully navigate the path from college to career

- Established in 2010 with support from president
- Vice President for Career Development, Andy Chan, a cabinet-level position reporting to president and provost
- Office of 25 dedicated staff
- \$5 million endowment raised in 18 months

### Wake Forest's Efforts Have Parents Talking

“I like that [Wake Forest] has made this a strategic priority and that students' career development will be integrated into their educational experiences. The student ends up really thinking about what he or she wants to do and is prepared to do it.”

“Wake Forest is head and shoulders above the rest of the other schools we are considering. [This] gives them a distinct advantage.”

Source: Masterson K, “Finished College, Now What?” *The Chronicle of Higher Education*. (May 16, 2012); “2010-2011 Annual Report Office of Career and Personal Development” Wake Forest University; Education Advisory Board interviews and analysis.

Parents of current and perspective students have also embraced Wake Forest's efforts to incorporate career development into the curriculum. Parents of perspective students in particular have told administrators at Wake Forest that the institution's focus on integrated career development sets it apart from other institutions.

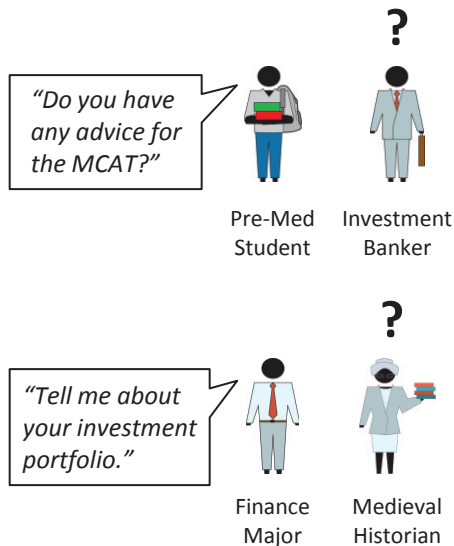
Student-alumni networking events are another means through which students make the link between their academic plan and future career possibilities. Unfortunately, networking events aimed at fostering students' career development are often characterized by surface-level interactions because of the broad range of interests and backgrounds represented by students and alumni at the event.

## The Problem with Current Networking Events

### *Random Mix of Attendees Leads to Surface-Level Interactions*

#### The One-Size-Fits-All Networking Event

##### Typical Event Interactions



##### Participant Feedback

###### Student

"Networking events are categorized by awkward silences and small talk. It's difficult to find someone who shares your interests."

###### Alumnus

"I want to support students from my alma mater, but I have a difficult time building meaningful connections at networking events. I often end up speaking with students who have no interest in my career path."

Source: Education Advisory Board interviews and analysis.

In general, these events tend to be characterized by first-come, first-served interactions where the participants are not matched based on common interests, skills, or experiences. As a result, students miss an opportunity for true career mentorship from an alumnus in an industry or position of interest, and alumni come away feeling frustrated that, though they would like to support students from their alma mater, they end up speaking with students who have little interest in their professional knowledge and career experience.



## Practice #10: Alumni-in-Residence Mentors

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In contrast to typical networking events, Wesleyan University has created focused opportunities for students to interact with high-profile mentors with whom they have a clear connection. To provide a more relevant experience for student and alums, Wesleyan has created an alumni-in-residence mentorship program which brings successful alumni back to campus for half- to three-days visits.

### Providing Access to Exceptional Alumni

#### *Wesleyan's Alumni-in-Residence Mentors*

##### Executive-in-Residence Visit Winter 2011



**Industry:**

Investment Banking

**Profile:**

- Alumnus has a successful career with Goldman Sachs in sales and trading
- Former student athlete

**Program Feedback:**

“He loved the program and students were thrilled to have him on campus.”

##### Itinerary Highlights of Three-Day Visit

1. Group session with student athletes focusing on how to discuss their skills and experiences in job interviews
2. Dinner with the Wesleyan student investment group
3. Individual appointments with students for mock interviews, resume critiques, and general industry advice

Source: Education Advisory Board interviews and analysis.

During their time on campus, mentors participate in range of activities, such as collaborations with faculty, large group presentations, skills workshops, and one-on-one meetings with students. Each mentor's itinerary is customized to fit the alumnus' preferences and time constraints, and to make sure they are meeting with students who have an interest in their background and career path.

To ensure a high-impact experience for both students and alumni, only mentors who have both an accomplished professional record and the ability to connect with and inspire students are invited to participate in the program. Through the alumni-in-residence program, Wesleyan students get industry insight from successful alumni and hear examples of how to capitalize on the strengths of a liberal arts education throughout their careers.

## A High-Impact Mentoring Experience

### Wesleyan Secures Impressive Roster of Mentors



- Head of Sony Entertainment Pictures
- Notable Biochemical Researcher
- Former Editor of Major Newspaper
- MacArthur Fellow in Sustainability

#### Defined Selection Criteria:

- ✓ Alumni who are recognized innovators with significant achievements in their fields
- ✓ Individuals with the ability to connect with and inspire students

### Not Just Another Info Session

“We see this program as a mentoring experience. The university asks the visiting alumni to talk about the power of the liberal arts, the best mistake they ever made, the role of serendipity in their career, and how Wesleyan helped them...This is stuff that students will not get at a company information session or a networking event.”

*Michael Sciola*

*Director of Career Resource Center, Wesleyan University*

Source: Education Advisory Board interviews and analysis.











