



Pathways Resource Brief

Begley, S. (2011, March 15). The science of making decisions. *Newsweek*. Retrieved from <http://www.newsweek.com/science-making-decisions-68627>

Decision science investigates the impact of excess information on the decision-making process. When confronted with a plethora of options, individuals experience anxiety and frustration, increasing the prevalence of mistakes and poor choices. The article presents research from Dr. Angelika Dimoka, who concludes that “with too much information, people’s decisions make less and less sense” (p. 30). Examples from empirical studies are described, demonstrating the negative effect of too many choices on selecting retirement plans, stock portfolios, and auction bundles. Information overload can also lead to decision remorse; too many options make it difficult to determine if the “best” one was selected. In addition, the rate and chronology of information flow influences decision-making, creating a bias toward the most recently received information. The author draws upon research, and commentary from high profile individuals in crisis events, to argue that the “proliferation of choices can create paralysis when the stakes are high and the information complex” (p. 31).

Bergeron, D.A. (2013, December). *A path forward: Game-changing reforms in higher education and the implications for business and financing models*. Retrieved from Center for American Progress website: <http://www.americanprogress.org/wp-content/uploads/2013/12/PathForward-1.pdf>

This report outlines the Guided Pathways to Success (GPS) model and highlights its significance regarding student completion, institutional reform, and scaling up pathways programs to serve greater numbers of students through additional components such as stackable credentials and competency-based, student-centric approaches to teaching and learning. While there is no data supporting how the GPS model impacts the workforce, the report acknowledges how such highly structured designs for completion can increase students’ competitiveness in the workforce. Included within the concept of pathway reform for students is an investigation into innovative ways that business, financing, and human organization can be reformed within institutions, offering brief examples of methods for revising institutions’ financial models for tuition and fees.

Completion by Design. (n.d.). *Pathways analysis toolkit*. Retrieved from <http://completionbydesign.org/our-approach/step-3-diagnose-the-issues/pathway-analyses-toolkit>

Completion by Design developed this step-by-step toolkit as an approach to pathways analysis. The toolkit provides extensive resources for institutions interested in either analyzing their current design—from students’ initial contact with the college through completion—or revising their current design for students’ program of study based upon a pathways model. The provided framework also stresses the importance of establishing consistent methods for collecting and analyzing institutional data to evaluate and improve students’ pathways over time. Furthermore, it includes metrics for pathway creation and evaluation as well as a framework, or Key Performance Indicators, designed to extend and improve colleges’ pathway models.

Complete College America. (2012, Winter). *Guided pathways to success: Boosting college completion*. Retrieved from http://completecollege.org/docs/GPS_Summary_FINAL.pdf

This resource serves as a guide to data associated with graduation rates for students at two- and four-year colleges, and in response, offers the components of a pathway model named Guided Pathways to Success (GPS). GPS notes that if encouraging students to persist and achieve is the goal, then new systems, such as GPS, must be designed to allow students to make more informed decisions regarding their academic path. The GPS program includes consistent and intrusive advising, guidance and support with academic plans, intentional course sequencing including embedded developmental courses, mandatory attendance, and innovative scheduling options.

Completion by Design (2012, March). *Pathway principles (Version 2)*. Retrieved from http://completionbydesign.org/sites/default/files/site-uploads/main-site/pdf/pathway-principles_v2_0.pdf

Drawing from research and experiences from colleges in the planning phase of implementation, this brief provides eight key “principles” for colleges designing and implementing pathways programs. While pointing out that there is no rigid way of implementing these practices, this resource stresses that colleges should integrate the following principles in their pathways design: accelerate entry into coherent programs of study; minimize time required to get college-ready; ensure students know requirements to succeed, customize and contextualize instruction; integrate student supports with instruction; continually monitor student progress and proactively provide feedback; reward behaviors that contribute to completion; and leverage technology to improve learning and program delivery.

Dadgar, M., Venezia, A., Nodine, T., & Bracco, K.R. (2013). *Providing structured pathways to guide students toward completion*. San Francisco: WestEd.

Community colleges have begun to experiment with structured pathways that allow students to explore career options while they take courses toward a credential or degree. Such pathways are particularly helpful to low-SES students who, in the absence of a “structured opportunity to explore...have traditionally pursued shorter-term credentials that tend to have lower labor-market returns than those of their more advantaged peers” (p. 3). Insights and examples from personnel at New Community College (NY) (now Guttman Community College/CUNY), Austin Peay State University (TN), Valencia College (FL), Community College Research Center (CCRC), California Community Colleges (CA), Public Agenda, and Tacoma Community College (WA) are included.

Approaches presented as examples include mandating prescribed intake processes, balancing flexibility and prescription, defining clear instructional programs, providing proactive “intrusive” advising, and increasing program alignment. While structured pathways are too new to have produced empirical evidence of effectiveness, the authors provide examples of current institutional efforts and outline major issues being discussed by participating colleges. They also provide implementation suggestions helpful to institutions desiring to develop structured pathways. CCRC recommendations for key data questions that need to be considered also are included.

Jenkins, D., & Cho, S. W. (2012). *Get with the program: Accelerating community college students' entry into and completion of programs of study* (CCRC Working Paper No. 32). Retrieved from Community College Research Center website: <http://ccrc.tc.columbia.edu/media/k2/attachments/accelerating-student-entry-completion.pdf>

The authors analyze data from 23 community colleges and over 22,000 students to demonstrate that “students who do not enter a program of study within a year of enrollment are far less likely to...complete and earn a credential” (p.3). They advocate using student course taking patterns

rather than declared intent to most accurately identify program entry. Colleges desiring to accelerate student entry into programs of study must implement research-based organizational redesign processes that create coherent pathways and consider potential roadblocks in developmental and gatekeeper courses. The authors also find varying rates of program entry and completion in different academic and career areas, and suggest that increasing institutional completion rates will require college-wide implementation of improvement strategies. The student experience is divided into four stages: connection, entry, progress, and completion. Aligning college practices to create a coherent student experience requires that a broad contingent of administrators, staff, and faculty work together to review policies and practices that affect the student at every stage. Questions to guide college efforts at each stage are included. Colleges should seek “best processes,” rather than “best practices,” as they rethink and redesign program pathways.

Jenkins, D., & Cho, S. (2014). *Get with the program . . . and finish it: Building guided pathways to accelerate student completion.* (CCRC Working Paper No. 66). Retrieved from Community College Research Center website: <http://ccrc.tc.columbia.edu/publications/get-with-the-program-finish-it.html>

While community colleges provide services to students that help guide them through their academic plan, this paper stresses the need for clearer pathways that not only inform students of the many opportunities that are available to them, but create a clearer picture of the specific steps students need to take to achieve their end goals. Such programs should offer embedded advising and track students’ progress, but there should also be structured ways of providing students feedback and support as they progress. Community colleges highlighted in this paper have adopted institutional structures that evaluate course offerings to ensure alignment with student pathways, developed faculty committees to enhance interdisciplinary alignment between academic programs, and created default course sequences that transfer directly to baccalaureate institutions. The authors point out that clear, structured pathways decrease colleges’ reliance on advisors and increase the coherence of student learning.

Jobs for the Future. (2013, October). *Cornerstones of completion: State policy support for accelerated structured pathways to college credentials and transfer.* Retrieved from http://www.jff.org/sites/default/files/publications/CBD_CornerstonesOfCompletion_111612.pdf

This report provides policy recommendations for structured pathways formed through the partnership of Completion by Design, participating colleges, and state-level policy organizations in an effort to provide insight regarding how to design, support, scale up, and strengthen pathways programs. Jobs for the Future focuses its research on ten “high-leverage policies that can accelerate institutional change toward systemic, student-focused structured pathways” (p. 4), consisting of creating structured transfer pathways by improving transfer and articulation policies; redesigning CTE programs to more structured pathways with clear labor market value, supporting structured pathways with better use of labor market information and program-level data; building direct routes to college opportunities through strategies such as dual enrollment, early college, and contextualized basic skills instruction; improving assessment and placement policies; reducing, accelerating, and contextualizing developmental education; supporting strong college advising, orientation, and student success courses; investing in professional development to prepare faculty for changes and reform; leveraging technology to support individualized student planning and tracking; and designing financial aid to encourage and reward student progress. Each policy recommendation includes a description, suggestions for implementation, and research that supports the recommendation.

Jobs for the Future. (2013, October). *Structured pathways and completion policy self-assessment tool: Aligned with the Completion by Design “Preventing Loss, Creating Momentum” framework.* Retrieved from http://www.jff.org/sites/default/files/publications/materials/PSPN_SelfAssessmentTool_101713b.pdf

This tool provides a set of policy-based questions designed for states to evaluate the progress that has taken place and the priorities that have been implemented to increase community college student success, retention, and completion. Using this survey, colleges can compare their progress with a set of policies recommended by Jobs for the Future, many of which directly integrate measures to implement and expand structured pathways models. Categories include Political Leadership and Commitment, Data System Capacity and Use, Student Engagement and Support Services, Continuous Improvement Processes, Outcomes-based Funding, and Financial Aid and Affordability, all of which align to the Completion by Design Preventing Loss, Creating Momentum Framework.

Kadlec, A., Immerwahr, J., & Gupta, J. (2013, September). *Guided pathways to student success: Perspectives from Indiana college students and advisors.* Retrieved from http://www.in.gov/che/files/FINAL-PA-ICHE_Guided_Pathways_Research_9_10_2013.pdf

This report, designed to contribute to the growing evidence base for improving advising and program development, includes an overview of pathways components, additional insight into how these components affect advisors and students, and quotes from campus advisors and students from several two- and four-year institutions. The authors also provide strategies for embedding promising practices such as early alert and intervention and academic goal setting and planning within pathways designed to increase student engagement and completion. Additionally, the report provides an extensive profile of a four-year institution in Indiana with additional qualitative data describing obstacles to implementation as well as feedback from policy and practice applications.

Karp, M.M. (2013). *Entering a program: Helping students make academic and career decisions* (CCRC Working Paper No. 59). New York, NY: Community College Research Center, Teachers College, Columbia University.

This literature review presents evidence focused on academic and career planning as it impacts student decision-making. The author emphasizes four principles that emerge from the research: (1) pathways must provide both structure and opportunities for exploration; (2) career advising and academic advising should be integrated; (3) student support services are most effective when targeted to student needs and cognizant of varying levels of need; and (4) counseling resources should be strategically allocated to provide the greatest support to students with the greatest needs. Colleges considering structured pathways must rethink how advising and counseling are delivered on their campus to maximize the benefits of increased structure. Examples from community colleges in California, Florida, North Carolina, Virginia, and New York are included. The author emphasizes that redesigned academic pathways will succeed only when accompanied by reformed counseling and advising systems. She concludes that, “doing so will require a renewed focus on advising and counseling – coupled with new technologies, new professional structures, and a commitment to working with the students who require the most support in a sustained and developmental way” (p. 26).

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J. (2010). *Student success in college: Creating conditions that matter.* San Francisco, CA: Jossey-Bass.

A chapter in this text is dedicated to “Clear Pathways to Student Success.” In this section, several profiles are offered with ways in which Documenting Effective Educational Practice (DEEP) institutions are creating structured pathways to support student success. Most DEEP institutions have first-year experience programs, many of which include summer transition

programs. Several also enhance their orientation for new faculty by including ways that they can support students academically and socially. Others have created a weekly Faculty Colloquium where faculty can share best practices and strengthen the interdisciplinary culture of the school. Some DEEP institutions have added student representation (of up to 20%) to the faculty recruitment and faculty orientation processes. Additional profiles included in this text highlight components of DEEP schools' pathways, such as structured peer mentorship for incoming students and campus events that incorporate the college mission or code of conduct in a presentation of campus traditions and social events.

Kuh, G. D., O'Donnell, K., Reed, S. D., (2013). *Ensuring quality & taking high-impact practices to scale*. Washington, D.C.: Association of American Colleges and Universities.

In discussions about how to improve and scale up high-impact practices, George Kuh notes that too few students take part in high-impact practices. Scholars and practitioners need to “better understand why they work, and possibly identify other practices, activities, and experiences that may have similar positive influences on undergraduate student learning and personal development” (p. 7). Kuh also points out that, “while it’s true that virtually all students, no matter their background, report positive effects [from high-impact practices] . . . certain groups are systematically underrepresented” (p. 12). Ken O’Donnell continues this conversation, adding that colleges must not only scale up the quality and size of high-impact practices, but that of articulation between institutions, curriculum and pedagogy, and real-world contextualization. He stresses that “we also need to know whether the gains we see with high-impact practices will hold up in the context of student mobility” (p. 22).

McClenney, K., Dare, D., and Thomason, S. (2013, April/May). *Premise and promise: Developing new pathways for community college students*. *Community College Journal*, 56-63.

The authors present a new, integrated model of academic pathways that emphasizes the student experience as central to student success. Traditionally, community college academic and support systems have functioned in silos, providing an incoherent experience that allows students to “wander into the college, wander around the curriculum, and then, all too soon, wander out the door” (p. 57). Based on evidence from researchers, the authors propose structured academic pathways composed of related programs, facilitating student entry into a proscribed course of study early in their postsecondary experience while also supporting exploration as a foundation for career choice. The embedded potential for stackable credentials allows students to pursue transfer, employment, or both. In addition, the academic pathways model creates and supports learning communities, embedded advising, and opportunities for discipline-appropriate co-curricular and experiential learning, integrated developmental coursework, and credit for prior learning. The increased structure of the academic pathways model provides a foundation on which students enter college, progress seamlessly through their coursework, and receive the support needed for completion. As the authors observe, “if we aspire to better results, we must first imagine and then implement better educational designs” (p. 63).

McClenney, K., and Dare, D. (2013, June/July). *Forging new academic pathways: Reimagining the community college experience with students’ needs and best interests at heart*. *Community College Journal*, 21-26.

This is the second article in the authors’ three-part series advocating for the development of structured academic pathways informed by research-based design principles. Academic pathways chart a student’s course from community college entry to completion, and are unlike “the typical community college experience [that] provides many opportunities for students to slip through the cracks, even when there is a clear sequence of courses” (p. 24). While no college has yet to implement the full academic pathways model, individual aspects of the model have been successfully incorporated in institutional initiatives, many of which are surveyed here. First year experiences, academic and student support services embedded in coursework, redesigned

math and English curricula, and contextualized learning are among the examples presented, drawn from community colleges and organizations around the country. In addition, the authors discuss the professional development needed to support such initiatives. As evidenced by the effectiveness of components of the pathways model already implemented at institutions referenced in the article, redesigned student experiences can improve academic outcomes. To be successful, colleges aspiring to redesign the student experience must utilize “key design principles, implement them at scale, and do it all exceedingly well” (p. 26).

McClenney, K. and D. Dare (2013, August/September). Reimagining the student experience: Stepping up to the challenges of change. *Community College Journal*, 41-46.

In this final article of their three-part series, the authors review the changes that must occur for colleges to reimagine the student experience and design structured pathways to improve completion. Acknowledging the central role of institutional culture in campus policy and practice, 12 critical areas are discussed as the authors highlight cultural influences that facilitate or hinder the creation and implementation of academic pathways. Establishing a culture that embraces student success as an overarching priority requires colleges to “move from fragmentation to integration, and...from isolation to collaboration” (p. 44) as members of the campus community learn to do things differently. Such efforts require a willingness to redefine traditional roles and redesign familiar processes - facilitated by courageous leadership, collaboration, a clear vision, and a sustained focus on critical goals. Barriers to completion must be removed, and resources reallocated to support the elements of a successful student experience. In this guide to the cultural challenges involved in transitioning to academic pathways, the authors recognize that the work will not be easy, but also affirm that it is possible, and that structured pathways are “necessary...to reach the critical goals of increasing college completion and achieving equity in student outcomes” (p. 46).

Nodine, T., Venezia, A., and Bracco, K. (2011). *Changing course: A guide to increasing student completion in community colleges*. Retrieved from Completion by Design website: http://knowledgecenter.completionbydesign.org/sites/default/files/changing_course_V1_fb_10032011.pdf

This comprehensive guide offers an overview of the Completion by Design initiative as well as of the planning stages of two-year institutions’ redesign process. Citing the goals of providing a platform (and funding) for institutions to become more student-centered and designing highly-structured pathways for completion, the Completion by Design initiative seeks to increase student completion (both degree and certificate), abbreviate the time students take to complete programs, and prepare students for transfer to four-year institutions. The report includes recommendations for design and programming such as integrating academics, career, and technical education; increasing connections with K-12 schools, four-year institutions and employers; designing course sequences within programs of study; embedding early alert systems throughout students’ degree progress; and defining learning outcomes across academic programs. Additional components involve innovative course design in terms of acceleration and/or modular structures, and embedding pathways needs, such as technological infrastructures, within the foundational financial and academic priorities of the institution.

O’Banion, T. (2011, August/September). Guidelines for pathways to completion. *Community College Journal*. Retrieved from <http://www.ccjournal-digital.com/ccjournal/20110809?pg=6#pg1>

In this article, O’Banion stresses that creating effective pathways in community colleges involves “redesign[ing] existing policies, programs, practices, and the way they use personnel in order to form a new seamless, integrated system that begins in our high schools, or at least at the points where ABE/GED/ESL and returning adults enter the pipeline, and follows through completion” (p. 29). He stresses that implementing promising practices in isolation or “grafting” on “prosthetic technology” (p. 29) are incomplete methods of institutional reform. Rather, full-fledged reform

should include (1) leadership that reflects all stakeholders, (2) consistent data snapshots as well as longitudinal data collection and interpretation to inform evidence based decisions, (3) integrated preparation for college success in all courses across disciplines, (4) consistent and meaningful employee development, (5) implementation of technological innovations that assume the necessity for constant expansion, (6) policies and guidelines for addressing rapid expansion or scaling up of successful initiatives to address all students, (7) reapplication and the search for additional financial resources, and (8) the establishment and maintenance of communication between all stakeholders.

Ross, R., White S., Wright, J., & Knapp, L. (2013). *Using behavioral economics for postsecondary success* [White Paper]. Retrieved from Ideas42 website: http://ideas42.org/content/Using%20Behavioral%20Economics%20for%20Postsecondary%20Success_ideas42_2013.pdf

Behavioral economics examines how and why people make particular choices. The authors invite readers to focus on the behaviors underlying student decision making, and to be creative in designing interventions that address these behaviors. Procrastination, inconvenience, and mental fatigue are proposed as causative factors in poor student choices. During their college experience, students are often overwhelmed with too many choices, and mental fatigue contributes to poor decision-making. Interventions should reduce choices, increase structure, and automate processes when possible. Examples of successful interventions in financial aid processes, student savings account programs, and summer counseling are provided. New Community College (NY) (now Guttman Community College/CUNY) is included as an institutional example. The authors observe that “the importance of structured decision making can’t be underestimated if the goal is getting more students to complete” (p. 35), and suggest that behavioral interventions are the most cost-effective and easy to scale efforts for improving student success.

Scott-Clayton, J. (2011). *The shapeless river: Does a lack of structure inhibit students’ progress at community colleges?* (CCRC Working Paper No. 25). Retrieved from Community College Research Center website: <http://ccrc.tc.columbia.edu/media/k2/attachments/shapeless-river.pdf>

This paper delves into the theories behind student choice and decision-making, positing that certain systems that are in place within an institution may create paradoxical situations in which student decisions are not supported in the long term because there is no systematic method of requiring students to follow through on their decisions and no system of integrated support to help students do so. The author asserts that unstructured programs of study can be particularly inequitable for first-generation college students or those who do not have access to college information. Practices such as more structured, sequential degree plans, access to aligned or sequential programs of study, more intensive advising so that students are able to weigh their options and make informed decisions, implementing learning community models so that students also have access to such information through their peers, and ensuring that curriculum is aligned and coherent across academic disciplines are all recommended. Lastly, Scott-Clayton stresses that there are innovative ways of creating more highly structured academic plans that do not necessarily limit student choice, such as creating collections of courses that students can choose from that are aligned to a more regimented academic course sequence.

Scott-Clayton, J. (2011). *The structure of student decision-making at community colleges* (CCRC Brief No. 49). New York, NY: Community College Research Center, Teachers College, Columbia University.

This brief proposes investigating several psychological and behavioral factors that affect student completion, such as students’ feelings of being overwhelmed or pressured to make decisions that align with the given system rather than those that are best for their individual academic progress and needs. It also describes several interventions that research indicates could be powerful

measures to support and increase student experiences and completion. In addition to intrusive advising practices and learning communities, a refocus on curriculum cohesion and alignment, as well as the need for radical structural changes, are also discussed. Each recommendation is accompanied by a brief profile of a college's experiences during implementation.

Symonds, W. C., Schwartz, R. B., & Ferguson, R. (2011). *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Report issued by the Pathways to Prosperity Project, Harvard Graduate School of Education. Retrieved from Southwest Alabama Workforce Development Council website: http://www.sawdc.com/media/5959/pathways_to_prosperity_feb2011.pdf

The main focus of this report is examining the ways in which a pathways model can prepare students with the necessary skills and knowledge to become competitive and highly contributing members of the workforce. The report cites lower completion at two-year colleges as compared with four-year colleges (29% versus 56%, respectively), high school dropout rates, and gender gaps in degree attainment to illustrate some of the ways in which the current education system has not kept up with the changing needs of its students. With the emerging needs of the 21st century workforce and the necessity for young adults to obtain skills relevant to shifting global needs, this report stresses that post-secondary institutions should “focus more attention and resources on programs and pathways that do not require a bachelor’s degree but do prepare young people for . . . middle-skill jobs,” highlighting the “central role that community colleges [play] in vocational training programs and apprenticeships” (p. 6). While emphasis is placed on how higher education institutions can support such models, the report also investigates the benefit of reform for employers, businesses, and governments to meet the new needs and demands of an increasingly global marketplace.