COMMUNITIES OF PRACTICE:
DEVELOPING GUIDED PATHWAYS METRICS IN STATE DATA SYSTEMS
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INTRODUCTION

State postsecondary education data systems are vital information assets for policymakers, researchers, and the public. The Communities of Practice project (funded by the Bill & Melinda Gates Foundation) at the State Higher Education Executive Officers Association (SHEEO) builds upon SHEEO’s ongoing efforts to measure the capacity and effective use of state postsecondary data systems and provides states with opportunities to develop solutions to common issues with those systems. Since 2010, SHEEO has conducted periodic studies of the content, structure, and use of state postsecondary data systems through its Strong Foundations surveys and associated site visits and meetings. The Communities of Practice project extends this work to provide professional development and technical assistance to state postsecondary policy analysts and researchers. Since the fall of 2017, SHEEO has held an ongoing series of Communities of Practice convenings. Each of these events brings together teams from multiple states and launches an ongoing network for Community of Practice members to share information, analyze solutions, and provide assistance to practitioners in other states.

The fourth Communities of Practice convening, “Developing Guided Pathways and Financial Aid Metrics in State Data Systems,” was held in Seattle, Washington, in April 2019. The two-day meeting included representatives from 13 states — Alabama, Georgia, Hawaii, Kansas, Missouri, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, Texas, Washington, and Wyoming. The state teams selected for this meeting represented a diverse group of systems currently utilizing or seeking to add guided pathways and financial aid metrics to their state data systems. Day One of the convening included presentations from leading scholars about understanding financial aid data, as well as examples of state data systems currently collecting this information and providing it in meaningful ways to consumers (potential students and their families). Day Two focused on guided pathways, the importance of momentum metrics, and using data to support institutional reforms.

This white paper highlights key themes and findings for the guided pathways segment of the convening and suggests topics for further consideration. A case study from Georgia is also included and PowerPoint presentations from the Communities of Practice convening are available on the SHEEO website.¹ A companion white paper, Communities of Practice: Developing Financial Aid Metrics in State Data Systems, details information from the financial aid section of the Communities of Practice convening.

The second day of the Communities of Practice convening focused on developing guided pathways, how states can measure gateway course completion and other momentum metrics, and what kinds of metrics states should develop to determine which models are most effective and how to bring them to scale. Davis Jenkins and John Fink from the Community College Research Center (CCRC) at Teacher’s College, Columbia University, and Tristan Denley from the University System of Georgia provided an overview of guided pathways, the importance of using lagging and leading indicators for college reform, and setting college performance targets.

¹. https://postsecondarydata.sheeo.org/events/CoP4
GUIDED PATHWAYS

In 2015, researchers from the Community College Research Center at Teacher’s College, Columbia University outlined a new approach to increasing the effectiveness of community colleges and improving student success rates.\(^2\) This guided pathways model has since become a signature component of reform efforts by individual institutions, state systems, and national higher education organizations, including the American Association of Community Colleges (AACC), Achieving the Dream (ATD), and Jobs for the Future (JFF). The guided pathways model redesigns college completion with the end goal in mind, seeking to ensure that graduates progress from program completion to career advancement and/or continuing education opportunities. This objective is accomplished by aligning activities associated with a student’s initial interest in attending college, to their academic program selection, to their program progress and ultimate completion, and then finally to their opportunities for postgraduate advancement within a common student pathway. A guided pathways approach attempts to better understand the educational goals of incoming students, educate students on future career and educational opportunities associated with specific academic pathways, help students select appropriate academic program plans, and then monitor and support students all the way to program completion.

The model incorporates four elements that focus on providing students with clear college to career pathways with the necessary academic and student service supports to monitor progress.\(^3\) First, the development of program maps to connect a student from college entry to completion, identifying program requirements (especially math course requirements) and providing a student with information on careers and transfer information. Second, helping students choose and enter a program pathway by providing career exploration opportunities and assisting the students with academic and financial planning and support. Third, keeping students on path with intrusive advising, feedback, progress monitoring, and predictable scheduling. Finally, ensuring students are learning through active and experimental learning and targeted learning outcomes.

Within guided pathways is a sense of educational relevance to a student’s career, which Strada Education Network & Gallup polls have shown to be of great importance to students. Data from the Strada-Gallup Education Consumer Survey provide evidence for the relevance of academic work to career goals.\(^4\) According to the survey, over half (58 percent) of respondents indicated getting a job was the main reason for attending higher education, well above the remaining reasons, which included learning or knowledge (23 percent), family or social expectations (12 percent), access/affordability (6 percent), and other (2 percent). In addition, the relevance of one’s education to their work and day-to-day life is the highest predictor of perceptions of academic quality and value.\(^5\)


The guided pathways model incorporates a student-centered approach within the context of a new college business environment. In the past, higher education practices resembled an educational assembly line in which students were forced to fit their educational aspirations and goals within the structure of the institution they attended. At community colleges, this often meant a complicated application process, funneling underprepared students into developmental education sequences, only scheduling courses during traditional business hours, minimal faculty development, and inadequate advising that failed to develop and track appropriate educational pathways for students. For nontraditional students, these obstacles present an especially difficult challenge as they balance the demands of school, work, and family life. In response, the guided pathways model focuses on the entire student experience, from application to career, ensuring students have administrative support, faculty and advisor guidance, and an institution that provides educational opportunities that will lead to high-quality jobs.
USING LAGGING AND LEADING INDICATORS

Lagging and leading indicators were two important concepts discussed at the meeting, and while both are important for institutional review and change, they serve different purposes. Lagging indicators (e.g., graduation rates) take years to measure, are primarily utilized for accountability and external stakeholders, and highlight the ultimate outcome of the college. Also, because they represent the ultimate outcome of a student, it is impossible to use these indicators to impact the students in that particular group or cohort. Instead, the information gathered from these data can only impact future cohorts. Leading indicators, on the other hand, are short-term measures that can predict lagging indicators and provide information for improvement. A common leading indicator for graduation rate is retention rate. The guided pathways model puts increased emphasis on the importance of the first year of college. There are a number of leading indicators that can be collected during this time, including credit accumulation, gateway course completion rate, course completion rate, and retention from the first term to the second.

CCRC recently released a research brief analyzing the impact of early momentum metrics on the success of over 500,000 community college students across three states. Reviewing nine measures categorized into three groups: credit momentum metrics (six or more credits in first semester, 12 or more college-level credits in first semester, 15 or more in first year, 24 or more in first year, and 30 or more in first year), gateway course momentum metrics (completed college-level English in first year, completed college-level math in first year, and completed both) and a persistence momentum metric (first year fall to spring persistence), their results indicate these early momentum metrics are strong predictors of student completion rates. In addition, when comparing the estimated impact of early momentum metrics among race/ethnicity groups, they found a similar magnitude impact between Black and Hispanic students compared to White and Asian students. One of the main concerns reported by CCRC is that fewer than half of students were on track to meet all early momentum metric benchmarks. To meet the end goal of college graduation, colleges and states must refocus efforts on intermediary goals with leading indicator data.

We have focused extensively on lagging metrics. We need to think about how to supplement the big statewide outcome targets with some of the leading indicators described today. This is a great next step for us and something our team is excited to pursue.

– Response to a Convening Team Time Exercise

DEVELOPING A STRATEGY FOR USING METRICS FOR REFORM

Data is a key element for institutional change and must be carefully integrated into reform efforts. In fact, the ability to collect, report, and use data is part of CCRC’s criteria for laying the groundwork for implementing guided pathways at scale.\(^7\) In their presentation at the Communities of Practice meeting, CCRC staff recommended the following approaches for setting targets for improvement:

- Use historical data from the past five years to identify targets for the next five years;
- Target setting should be done separately for each state, given unique state contexts;
- State goal setting should be designed to motivate colleges to set their own goals for improvement based on their historical baselines; and
- Within states or other peer groupings, use historical data to rank colleges on their development in order to differentiate ‘status quo’ from aspirational improvement.

At the University System of Georgia, the reporting and use of student data has been integral to their system-wide transformation. More details are included in the Georgia case study.

\[\text{It is critical to make the target relatable to the work. Having a high-level target for something like completion is not going to be actionable. However, for a short-term metric, it might be doable. Simple, measurable, and actionable.} \]

- Response to a Convening Team Time Exercise

OPPORTUNITIES FOR THE COMMUNITY OF PRACTICE

INCORPORATE BOTH LEADING AND LAGGING INDICATORS IN STRATEGIC PLANS

The saying “you measure what matters” should be followed when incorporating metrics into a SHEEO agency’s strategic plan. In particular, many leading indicators are critically important to closing equity gaps and making improvements for future cohorts. For example, momentum year metrics are a way to signal if the longer-term graduation rates or state attainment rates may increase in future years. Guided pathways metrics should also be integrated into leadership discussions to facilitate statewide and institution-wide buy in.

REVIEW GUIDED PATHWAYS METRICS AND POLICIES BY SUBPOPULATIONS

Closing the equity and attainment gaps in higher education is a central focus of institutions, SHEEO agencies, and national organizations. Therefore, states and institutions must drill down and understand the nuances in their guided pathways data by key student subpopulations, including low-income, minority, and at-risk students. In particular, new programs and institutional changes should be viewed through an equity lens to determine how they will impact different student populations.

REMEMBER THAT INSTITUTIONAL REFORM AND CHANGE IS A LONG-TERM PROCESS

The guided pathways model is not a quick fix, and implementation is not simple. This approach is a total transformation from the idea of college-centered environment to student-centered environment. Therefore, it could take as long as six years for full implementation after the groundwork has been established. During this time, SHEEO agencies may experience staff turnover and should be well organized to sustain initial progress if key stakeholders are replaced.
CASE STUDY

GEORGIA – SUPPORTING A SYSTEM-WIDE STUDENT SUCCESS AGENDA

By Lori Hagood, research associate, University System of Georgia

The University System of Georgia (USG), in an effort to raise statewide degree attainment to 60 percent by 2025, has launched an ambitious set of system-led student success projects. This work began in earnest in 2011 with the Complete College Georgia (CCG) initiative, in partnership with Complete College America, and has expanded over the last two years to include the Momentum Year, a collection of first-year efforts designed to improve student persistence through college to graduation:

- Making a purposeful program choice;
- Creating a productive academic mind-set;
- Attempting the first 30 hours of a clear pathway;
- Attempting nine hours in the academic focus area; and
- Completing initial English and math courses.

We are shifting from the Momentum Year to the Momentum Approach, which seeks to incorporate these same principles throughout a student’s academic career. This work also includes the recent system-wide shift to corequisite remediation, away from the traditional learning support model whereby remedial courses and college-level courses are taken sequentially. Research and data support have been integral to the development and implementation of USG’s student success initiatives. Through standard reporting, research and analysis, and technical support, USG staff has provided the critical work necessary to inform and sustain system-wide student success efforts. This case study highlights a few of these key efforts, demonstrating the vital role of SHEEO agency data offices, data collection, and reporting infrastructure, as well as data analyst and business intelligence staff in accomplishing system-wide and statewide goals.

REPORTING

Our readily available collection of standard reports has helped equip system leaders and staff to discuss the CCG and Momentum Approach efforts in meaningful ways. Leveraging our existing reporting infrastructure—a team of business intelligence analysts and researchers as well as our data warehouse built for standard reporting—we provide a variety of standard reports and ad hoc reports to support system

9. https://www.usg.edu/research/usgbythenumbers
meetings, presentations, conferences, workshops, and the like. We also produce a series of reports that include longitudinal, disaggregated data on a variety of postsecondary outcomes for each institution (retention, graduation, degrees conferred, credit hour accumulation, learning support completion, etc.). This work supports campus reporting and analysis related to CCG initiatives, especially for our smaller institutions that have limited institutional research capacity. We are currently developing interactive visualizations of the CCG data to better support system and institutional leaders.

ANALYSIS

In-depth analysis and research helped demonstrate to various stakeholders the benefits of corequisite remediation as opposed to traditional learning support models (known as Foundations in the USG). This work shows that regardless of academic preparation, students who participated in corequisite learning support were more likely to earn a passing grade in gateway English and math courses relative to Foundations courses. In fact, gateway course pass rates for corequisite learning support students were most similar to students who did not have learning support requirements.

Likewise, our analytic work has highlighted the advantages of taking a fuller course load in the first year. Through a propensity score matching analysis—a replication of a study from the Community College Research Center—we learned that USG students who attempt at least 30 hours in the first year are 13 percentage points more likely to graduate within six years than if they attempt fewer than 30 credits. Moreover, this analysis demonstrated that regardless of academic preparation, taking a fuller course load was beneficial to all students. In fact, the marginal benefit of a fuller course load was most pronounced among the least academically prepared.

TECHNICAL SUPPORT

Technical support provided by system office researchers, business intelligence analysts, data warehouse architects, and learning management system (LMS) experts has enabled the implementation of corequisite remediation by automating learning support placement and building the course registration processes. The shift to system-wide corequisite remediation was accompanied by a paradigm shift in the placement of students in learning support and necessitated a new approach to course registration to ensure simultaneous enrollment in remedial and gateway courses. We also had to consider how to capture this new information in the Academic Data Collection (ADC) in ways that would support reporting and analysis of these initiatives. To accomplish this, we considered what senior leaders would ultimately want to know about the new learning support model and how we could conduct rigorous analyses to determine its effectiveness. Bringing these questions into the data entry and collection phases has helped prepare us for future reporting and analytic work.
We took the same approach when adding in data elements related to students’ academic focus areas, one of the Momentum Approach elements. Adding in the focus area to student registration data allows academic advisors to guide course selections better. We will soon begin collecting this new data element at the system level, further enhancing our reporting and analysis of system-wide student success initiatives.

Lastly, we have provided technical support in the form of secure storage of sensitive information linking student surveys to administrative data. Since fall 2017, the USG has partnered with Motivate Lab at the University of Virginia to develop and administer a system-wide mind-set survey to incoming first-year students. The purpose of the survey is to better understand students’ motivations in attending college, mind-sets around math and English (in other words, what students believe about their learning capabilities), as well as an inventory of scarcity-related items (food insecurity, housing, ability to pay for college, etc.). System office research staff have supported this work by securely storing the survey data as well as linking survey responses to administrative data, allowing USG and Motivate Lab analysts to determine how mind-set, motivation, and scarcity relate to a variety of postsecondary outcomes.

Reporting, analysis, technical expertise, and the intricate ways in which these efforts work together are critical for the development and implementation of large-scale efforts such as the USG’s Momentum Approach.
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