The goal of the Post-Collegiate Outcomes (PCO) Initiative is to provide a framework for a richer and more comprehensive discussion of student outcomes after college as well as consistent and meaningful measurement tools for reporting those outcomes. The PCO Framework (see Figure 1) consists of two intersecting continua leading to four quadrants: public and personal outcomes and economic and human capital outcomes of a college education.

Figure 1: PCO Framework

As a supplement to the PCO Framework, this piece of the PCO Toolkit provides more in-depth explorations of developing measures for use within the framework. The intent is to establish a set of dimensions colleges and universities and governing bodies should consider when developing or using PCO measures both now and in the future.

Stakeholders frequently resort to using only measures from the personal economic quadrant as post-collegiate outcomes because they are comparatively easy to measure. Measuring outcomes from other quadrants is essential for a more comprehensive assessment.

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quadrants, such as well-being or employability, requires not only the creation and definition of outcome measures but also access to data at the individual level that are not as readily available. Simply ignoring outcomes from the human capital quadrants dangerously and incorrectly focuses public conversation to a narrow range of outcomes. Such focusing may lead to unintended consequences: if accountability systems exclude outcomes from the human capital quadrants, institutions may shift curriculum away from aspects that contribute to an educated citizenry, strong communities, and more globally competitive employees. Even stakeholders who are concerned primarily with outcomes in the public and personal economic quadrants should pay attention to outcomes in the human capital quadrants because higher education often leads to greater social giving and a stronger social safety net.

One example of a collection of outcomes and metrics of interest to policy makers is shown in Figure 2. State policy makers are often interested in the value or return on state investments in technical colleges. While the outcomes in the economic quadrants are those most often considered it is also important to understand outcomes such as individual’s career satisfaction as low career satisfaction may indicate an unstable employment base that will not sustain future growth in the industry or state.

*Figure 2: Example Outcomes for the Value of State Investments in Technical Colleges for State Policy Makers*

<table>
<thead>
<tr>
<th>Framework</th>
<th>Quadrant</th>
<th>Outcome</th>
<th>Metric</th>
<th>Indicator(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Economic</td>
<td>Graduates’ employment</td>
<td>Percentage of technical college graduates employed 1 month, 1 year, and 5 years post degree award</td>
<td>Comparison to target percentage set by state policy makers; comparison to percentage of technical college graduates employed prior to investments or in states where investments were not made</td>
<td></td>
</tr>
<tr>
<td>Public Economic</td>
<td>Return on investment of public expenditures</td>
<td>Ratio of the increase in tax base compared to the total cost of new investments made in technical colleges</td>
<td>Ratios greater than 1 indicate a positive return on investment; comparison to expected or projected return on investment</td>
<td></td>
</tr>
<tr>
<td>Personal Human Capital</td>
<td>Career satisfaction</td>
<td>Percentage of technical college graduates’ survey responses about satisfaction with their career that are positive</td>
<td>Comparison to percent of positive survey responses about career satisfaction from individuals who did not attend or did not complete college</td>
<td></td>
</tr>
</tbody>
</table>

The Post-Collegiate Outcomes (PCO) Framework establishes a vocabulary that higher education officials

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can use to talk about the spectrum of concepts related to post-collegiate outcomes. As the vocabulary develops and stakeholders hear these expanded yet consistent definitions it will become easier to engage in broad, meaningful conversations beyond the easy-to-measure economic outcomes.

With that goal in mind, this document will establish some of the key dimensions as stakeholders begin to define or refine post-collegiate outcomes across the framework. Clear definitions are essential when creating measures of post-collegiate outcomes. The following section defines the terms used within the framework – such as outcomes, metrics, and indicators. Additional dimensions are then proposed and examined, such as the level of analysis needed to properly use the measure, the time frame within which a measurement is taken, and the current or possible-future data sources available to construct the measure. Finally, the question of institutional mission or intentionality must be considered when determining the amount of relative weight or importance a measure should be given in institutional accountability.

Definitions
This section will focus on three broad concepts that are necessary to understand the potential applications of the framework: outcomes, metrics, and indicators.

Outcomes. Outcomes are results of the higher education experience being evaluated or measured using the framework. Outcomes cover a range of different types of results. Big picture results are frequently not specific enough to create a single measurement definition or data source. Instead these results are often represented by a combination of more discrete, concrete results that are easier to measure. For example, in the public economic quadrant, broader outcomes include stronger local economies through a wider tax base and a reduced reliance on social services. Within the personal human capital quadrant, more diffuse broad outcomes include life satisfaction, improved health and wellness, and the ability of individuals to think critically and solve problems, both on the job and as consumers.

Outcomes sometimes fit neatly in a single quadrant, while others transcend the boundary of a single quadrant; see Figure 3 for examples. Additionally, some outcomes can be easily traced to the actions and intentions of specific institutions or programs, whereas other outcomes appear more generally in a larger population or community. Future development of the PCO Framework will work to provide guidelines and recommendations for many outcomes that currently lack commonly agreed upon measurement definitions. Guidance for the use of outcomes for institutional responsibility, and for balancing the need for institutions to be accountable with the needs of our communities and states, will also need to be developed.

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**Figure 3: Examples of Outcomes Across the Framework**

**Metrics.** Each outcome is measured and evaluated through one or more specific metrics. Although some outcomes may be discreet enough to be captured adequately by a single metric, it is typical that a single metric is unlikely to fully depict most outcomes. In most cases, a combination of metrics can more comprehensively describe the outcome under consideration. Furthermore, some outcomes will be measured by metrics from more than one quadrant. For example, “wage levels” could be measured by increased personal earnings within the personal economic quadrant and an expanded tax base within the public economic quadrant.

Within the public economic quadrant, the outcome of “community economic health” could be measured by multiple metrics, such as total tax revenues, spending on social services, or how closely community members’ work qualifications align with available jobs in high demand areas. For the public human capital quadrant, at bottom left, measurement of a relevant outcome, such as “social giving,” might rely on...

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several metrics, among them rates of volunteerism, and charitable giving levels.

Indicators. Indicators provide a context or benchmark for metric results, making it possible to determine if the data reported is positive, negative, or neutral as compared to a desired objective. Knowing that 60% of degree completers from a particular year voted in the most recent state election, for example, may be a positive or negative outcome, depending on the expectations of a particular stakeholder group or the goals of a specific institution. Indicators can provide additional contextual information for users by comparing current outcomes to past performance of a similar group, to national data, or to established goals.

As previously noted, the quadrants and outcomes are not discrete, self-contained categories. They exist along continua with significant overlap (represented by the arrows between the quadrants). Some outcomes will have evidence across multiple quadrants, and some metrics can quantify more than one outcome.

The framework was created to be flexible and to accommodate the comprehensive array of post-collegiate outcomes. Multiple measures for most outcomes are recommended to highlight and reinforce the strength of diversity within the U.S. higher education system while also allowing for meaningful measurement and comparison of outcomes across institutions.

Audience
The audience is an important consideration when communicating metrics and indicators of outcomes under consideration. There are many audiences for post-collegiate outcome metrics. Some key audiences include, but are not necessarily limited to:

- students and their families (prospective, current, and former);
- guidance and admissions counselors;
- K-12 faculty and staff and;
- external stakeholders, such as
  - federal, state, and local policy makers,
  - accreditors,
  - institutional or system boards of trustees or regents;
  - members of the public, taxpayers, and voters;
  - employers;
  - internal institution staff, faculty, and peers;
  - higher education researchers; and
  - associations, organizations and, grant funders; and media and think tanks.

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Metrics for outcomes under consideration should be developed with the audience in mind. Some outcomes will resonate with some audiences but not with others. For instance, students and families may be most interested in the personal economic metrics related to earnings such as the median salary of a program completer one year after graduation because they are making a personal investment in attending a particular institution. After graduation as interests shift toward being members of communities, the attention of these alumni and family members may shift toward more public outcomes, such as the maintenance of infrastructure made possible by larger tax bases. Policy makers, on the other hand, are primarily interested in the public economic metrics related to earnings such as the changes in the tax base of a community, region, or state. While state and local government officials might be interested in the return on tax-dollar investment in higher education, they should also consider outcomes in the human capital quadrants to obtain a deeper understanding of the contributions of higher education experiences.

As our national conversation evolves, the attention of these audiences may shift and the inter-relatedness of the outcomes in the personal capital quadrant and both the economic quadrants should become more apparent. Understanding the audience for an outcome will help to ensure the metrics that describe the outcome under consideration align best with the audience’s interests. Such considerations will also ensure that metrics are presented in ways that are relatively easy to interpret, reducing confusion or potential for numbers to be taken out of context. Metrics are a tool to help higher education officials tell a more accurate story based on evidence that has meaning for one or more stakeholder audience.

Level of Analysis

Post collegiate outcomes appear at multiple levels. As discussed previously, median individual earnings is an outcome of great interest to students and their families, but policy makers tend to be more focused on the aggregation of earnings as they relate to the tax base. These different levels of analysis both contribute meaningful information about the value of post-secondary experiences, but they have different uses. It would be difficult to argue that a student should attend a particular institution or program because the tax base in the area they live would grow, just as it would be difficult to expect policy makers to craft local appropriations bills based on the median earnings of students from one program or institution. Recognizing these different levels of analysis helps to both expand our understanding of post-collegiate outcomes and allow us to focus on the right outcomes for the right purposes.

Similarly, some outcomes are easy to link back to particular colleges or universities, while others are better measured at the state, regional, or national level. These differences are important to keep in mind when identifying outcomes and metrics for use in institutional accountability initiatives, particularly when

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those initiatives are linked to institutional funding decisions. Further, as some outcomes vary considerably more when viewed within the various programs or departments that comprise an institution than they do on average across institutions, some indicators and metrics may best be considered at the sub-institution level.

For this reason, not all indicators and metrics discussed in this framework will be suitable for use in institutional accountability. That does not, however, diminish the importance of these indicators and metrics; on the contrary, it is essential that these indicators and metrics be as much a part of the discussion on post-collegiate outcomes as those that can be institutionally tied. Failure to recognize the broader, outcomes of collegiate experiences encourages viewing the contributions of U.S. colleges and universities through a dangerously narrow lens when the strength of the nation’s system is its diversity.

**College program or major.** College programs (e.g., majors) are frequently the core level of analysis for institutions examining post-collegiate outcomes, especially in programs with their own accrediting bodies or those designed to lead to immediate entry into a specific job. For programs specifically designed to allow immediate entry into the job market, many of the measures in the economic quadrants of the framework may be appropriate, such as short-term outcomes related to earnings, job placement or employment in field of study, and value added to earnings.

However, while many college programs allow program completers to enter directly into a job or career, not all programs of study are intended to do so. Many programs prepare students for a range of potential careers and many students may pursue majors specifically because of this versatility. For these programs several measures in the human capital quadrants may be appropriate, such as adaptability or flexibility, experiences with diverse people and ideas, and the application of critical thinking.

Less appropriate at the program level may be measures in the public human capital quadrant or the public economic quadrant. Programs with a strong public service focus, such as social work or criminal justice, may choose to identify outcomes in the public human capital quadrant if those outcomes align with their program mission. Programs that produce completers in high-demand public service fields such as STEM education may find metrics that fit them best in the public quadrants as well.

**Credential level.** Some programs or credentials are stepping-stones to further education, such as transfer-oriented associate degrees or bachelor’s degrees designed to prepare students for graduate work. These areas may be less suited to assessing short-term, workforce-oriented outcomes. These credentials, however, lend themselves to outcomes related to continuing education. Additional degrees also tend to influence economic outcomes later in life, with average earnings generally increasing for each additional credential (Carnevale, Rose, & Cheah 2011).
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Institution. As calls for increased accountability in higher education typically have focused on institutions, it is reasonable to expect that there would be many post-collegiate outcomes appropriate to measure at the institution level. Outcomes related to the ability of graduates to repay any debt they incur while pursuing their degree, to obtain employment within a reasonable period of time that requires the credential they have earned, or to participate as contributing members of their communities are examples of such.

It is essential to consider institutional outcomes in the context of the student body, program array, and mission of the institution. Doing so avoids expectations that all institutions must account for all outcomes. For instance, an institution primarily serving immediate-post-high school students who attend full-time and tend to live at least one year on campus might have different interpretations for evaluating students’ post-collegiate engagement with voting or volunteerism than an institution serving a population primarily comprised of returning adults who commute. In addition, institutional measures must be considered in the context of whether or not the institution is intentionally trying to change an outcome (see Intentionality section below for a broader conversation of this dimension).

Community, regional, and national. Outcomes such as community infrastructure, public health, and the health of the economy are essential post-collegiate outcomes that contribute to the wealth of our nation, our global competitiveness, and the health and wellbeing of our citizens. Such outcomes, however, are most appropriately measured at levels that make it difficult to attribute changes directly to the actions of completers from specific programs or institutions. These outcomes provide information helpful in evaluating societal investment in higher education, but they are less able to be disaggregated to attribute causal relationships to individual programs or institutions. Measures at these higher levels may also have limited data sources, such as national sample surveys, which would not allow for disaggregation; for these measures, such data collection is an effective and efficient approach to gathering information.

Time Frame

The time frame for measuring post-collegiate outcomes involves several important factors.

One-year snapshot. Outcomes measured one year after graduation provide an initial snapshot of the outcomes of college and are informative in and of themselves. Given that research has shown that individuals change jobs frequently early in their career, this data point may not be indicative of the long-term outcome of education. Further, some students delay employment and attend graduate or professional school. Research shows that this decision can pay financial dividends – individuals with advanced degrees can earn 2 to 3 times more than high school graduates. So, while almost requisite in policy contexts where immediate answers are of greatest value, measuring earnings one year after completion alone may not provide the most informative metric.

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Multi-year frame. For some outcomes allowing more time for the value to become expressed portrays a more accurate picture. As an example, the earnings curve for a baccalaureate degree in a liberal arts program generally increases significantly over time. Four-year higher education institutions with traditional students might prefer a methodology that reports earnings for both short- and long-term time periods. Short-term is defined as 1 to 5 years after a student receives a degree. First-year earnings will not necessarily capture the true value of the economic value added, as individuals’ first jobs are normally their lowest-paid jobs. Therefore, reporting long-term earnings, ranging from 6 to 10 years or more, would allow for more meaningful and accurate earning trajectories.

Pre-Post Comparisons. Some outcomes may be best reported using a pre-post methodology that reports earnings 1 or 2 years prior to receiving a degree and earnings 1 or 2 years after receiving a degree. The positive earnings can contribute to demonstrated value added from a credential. This methodology might be best suited for two-year colleges, which typically have more students who were employed full-time prior to attending a higher education institution.

In addition to considering how long after departure a measurement should occur, there are considerations of measurement duration. For instance, the general health of the economy might best be measured over a period of several years and considered as a trend indicator instead of at a single point in time as an absolute metric. Similarly, it may be best to consider some measures as an average over a period of time. Examples of this might be the average amount of money donated to charitable organizations by a program completer per year as well as the total amount of money donated by all completers per year.

Data Sources
Operationally defining a metric and evaluating the result requires identifying the data sources. It is important to evaluate many aspects of the data source(s) when developing and promulgating a metric. Not all metrics will have appropriate current data for use, and some metrics may not lend themselves to objective measurement (e.g., it would be difficult to compare someone’s level of personal happiness post-completion to what it might have been had he or she not completed). As with all measurement, the limitations of the data should be noted, especially when high-stakes decisions may be made on the basis of outcome metrics.

What is of utmost importance to understand is that post-collegiate outcome data exist within agencies, corporations, and other entities external to the institution or system. Accessing these data at the individual level to create the metrics desired requires the establishment of data sharing agreements, memorandums of understanding, privacy protection reviews and the interest in cooperating between all interested parties. Even then, the disparate sources of data to be shared may be found to not have either
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the data believed to exist or the ability to acquire it in a useful form.

Intentionality

Intentionality identifies the extent to which a college or university has a stated goal, policy, or practice designed to produce a specific outcome. Many post-collegiate outcomes are applicable to all colleges, while others may be based on the institutional mission or practices of given institutions. For institutional accountability, intentionality can determine which outcomes are appropriate to include for a given institution, as well as whether an institution can rightly claim to have been a contributor to changes in outcomes in their graduates. For example, some colleges have explicit programs to increase civic or social engagement (such as mandating service-learning programs or courses) and would therefore expect to see increased participation in civic and social issues in their graduates than a school without such programs. Of course, care needs to be taken in accounting for other factors in the lives of completers that might influence the outcome. These factors may have mitigating or amplifying effects, and determining their influence may be difficult to accomplish.

Higher education institutions can be strategic in answering accountability questions raised by stakeholders by developing a project charter for ongoing efforts to produce post-collegiate economic outcomes. A project charter provides a clear description of the intended scope and objectives relative to post-collegiate outcomes the institution has identified as most relevant for students who attend their institution and could be made available to all key stakeholder audiences.

Conclusion

Higher education stakeholders (current and prospective students, parents, alumni, business leaders, and legislative officials) are inundated with data and information, but frequently have little context to help them determine which is most relevant to a given topic. To better highlight the value of higher education for students, communities, and society, this document has identified various dimensions that should be considered and addressed when developing and using post-collegiate outcomes to ensure that the most appropriate data are used to answer the right questions. While anecdotal evidence can be compelling, it is incumbent on evaluators to move beyond individual student stories—good or bad—to a data-informed view of what is actually happening to students on campus and after they leave campus and join the workforce. By attending to the dimensions identified above, higher education officials can ensure that all stakeholders have access to clear information about the outcomes of their students.

Developing metrics for measuring the value of higher education should be an ongoing task of all college and university administrators. The work cannot take place only within single institutions, states or even regions. To effectively measure value added, and to communicate that measurement to constituents, these measures must be used across institutions, across states, and at the national level. The PCO DISCUSSION DRAFT

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Framework and Toolkit exists to aid all institutions by providing a common vocabulary for use in further defining specific metrics and indicators for the measurement of post-collegiate outcomes. It is critical that higher education administrators take a collective, proactive approach to data use and metric development so that meaningful and easily disseminated information is available to stakeholders.

References


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