san josé·evergreen
COMMUNITY COLLEGE DISTRICT

Resource Allocation Model Taskforce

Meeting Minutes

February 3, 2017 – EVC, VPA-115

Present: Doug Smith, Andrea Alexander, Jorge Escobar, Lauren McKee, Keiko Kimura, Peter Fitzsimmons, Eugenio Canoy, Eric Narveson, Steven Graham, Guillermo Castilla, Chris Frazier, Yesenia Ramirez, Barbara Hanfling, Mark Newton

Absent: Fabio Gonzalez, Jesus Covarrubias, Philip Crawford, Dan Hawkins, Paul Fong

Also Present: Roy Stutzman, Sherri Brusseau, Jonathan Camacho

1) **Call to Order: 1:10 p.m.**

2) **Approval of Meeting Agenda:**

   M/S/P; Ayes- 14, Opposed-0, Abstentions-0, Absent-5, a Motion to approve the agenda was made by Barbara Hanfling; Seconded by Chris Frazier. The agenda was approved as submitted.

3) **Approval of 02/24/17 Meeting Minutes:**

   a) The committee requested that the minutes be taken back for further staff review, as they felt much of the commentary was missing.

      i) Ms. Brusseau agreed to go back to the meeting recording for further review, and bring the February 24, 2017 meeting minutes back to the committee at its 03/10/17 meeting.

4) **Opening comments:**

   a) Mr. Stutzman opens with a recap of previously provided simulations, in that they are a framework for an allocation model that is understandable, starting with revenue, and then allocating that revenue by some objective means.
   b) Mr. Stutzman notes one of the other principles we want to build from is to be fair, and that we are still working towards this as we evaluate these other variables, measures, etc.
   c) And finally, Mr. Stutzman comments that these simulations are also meant to ensure fiscal integrity by not allocating more revenue than we have.

5) **Simulation #7 (**Attachment A**):**
   a) Mr. Stutzman distributes simulation #7 with a reminder to the group that a lot can be done with all of the simulations that have been provided, including the use of measures other than FTES.
   b) Mr. Stutzman notes that this simulation uses a 3-year rolling average of actual FTES.
   c) This simulation provides a base allocation of $20M with $10M being allocated to each college. A new allocation element called "College Program/Performance Allocation" has been added, whereby a total of $10M has been set aside to be allocated using, yet to be determined, agreed upon, quantifiable program/performance measures discussed during the 02/24/2017 meeting. For discussion purposes and not knowing otherwise at this point, $5M has been allocated to each college.
      i) Mr. Frazier questions where the $30M came from?
         (1) Mr. Stutzman responds that this is the difference between what we would receive as an apportionment district vs. what we currently receive being a basic aid funded institution.
      ii) Mr. Stutzman further notes that this simulation is based on a starting point of the colleges being equal, and it may turn out that after the committee measures these other variables, the colleges may still end up equal. That will be determined in the further discussion around other measures and variables.

iii) Mr. Frazier questions how the District Services and District-wide costs get encapsulated within this model?
    (1) Mr. Newton responds that the colleges would pay out for those District Services.
    (2) Mr. Narveson clarifies that Mr. Stutzman is proposing a cap in this simulation.
iv) Ms. Hanfling notes her continued concern for funding left to continue to cover medical benefits and raises.
    (1) Mr. Frazier questions, "how would that work?"
    (2) Mr. Stutzman responds that those costs will remain where they always have been, within the opportunity monies generated within the property tax data points.
        (a) Mr. Smith further clarifies that at the adopted budget we have the first data point, after that we receive four additional data points which, if they increase, serve as opportunity monies for those medical benefits and raises.
        (b) Mr. Newton notes that currently negotiations are handled by the District Office, however, with this model, those negotiations would then be pulled into discussion with the Unions and College Presidents. Mr. Newton further questions if we are looking for savings elsewhere in the district, where would we look to solve those inefficiencies?
        (c) Ms. Kimura notes similar to Mr. Newton's comment – where the entities have the opportunity to access this in the event that new property taxes are not received?
            (i) Mr. Smith responds that we adopt at data point 1, and either all successors drop into the formula, or they are put off to the side for initiatives, collective bargaining etc.
            (ii) Additionally, Mr. Stutzman notes that currently, carryover salary savings is accessible to the college in year 1. It then rolls into the district in year 2, which could benefit the need for negotiations at the district level.
    (3) Mr. Frazier comments that we could consider raises to be a strategic factor.
    (4) Ms. Hanfling suggests that we keep thinking on this, but that we move forward from here.
    (5) Ms. McKee further expresses concern with not knowing where the funding is set aside for growth (i.e. Milpitas, etc.).

6) College Program/Performance, Variables, Metrics, Measures (Attachment B):
    a) Mr. Smith introduces the topic from the list of variables, originally provided by Mr. Narveson, and augmented by Mr. Escobar. Mr. Smith further questions the group if there is a way to quantify those variables, do they have a dollar value associated?
      i) RAM VARIABLES:
        (1) <u>Base Allocation based upon FTES for college and district services allocations:</u>
            (a) The committee agrees to keep this variable as is.
        (2) <u>Overhead cost of CTE programs (program cost analysis):</u>
            (a) Mr. Narveson clarifies that this item encompasses FTES, higher costs due to safety, pedagogy of courses, and total cost calculated by the student.
                (i) Mr. Stutzman notes that, the analysis provided at the 02/24 meeting, was an attempt to illustrate that total cost.
                    1. Mr. Newton responds that the 02/24 analysis did not account for differences in size.
                        a. Mr. Stutzman comments that if a college chooses to evaluate based on size, that evaluation will need to be conducted with all classes, not just CTE programs, which can be a challenge.
                        b. Mr. Newton further describes, for example, if accounting were a costly program, and the campus was trying to cut costs, wouldn't the college just reduce that costly program?
                            i. Mr. Stutzman notes that in that instance he suggests the campuses be asked to run those programs more efficiently.
                            ii. Mr. Castilla notes his concern with the use of a purely FTES approach, as basic skills course FTES would increase exponentially in order to offset those CTE course costs.

        iii.   Mr. Escobar suggests that based on program cost analysis, we are going to find that there are programs that are more expensive than others, and that this is a variable we should consider.

        iv.   Mr. Newton notes that based on Mr. Escobar's comment, item number 2 & 3 on the RAM Variables list can be combined.

        v.   The committee agrees to combine #2: Overhead cost of CTE Programs (Program Cost Analysis), and #3: Percentage of Academic Programs Traditional vs. CTE.

(3) <u>Percentage of Academic Programs Traditional vs. CTE:</u>

    (a) This item was combined with item #2 per the above note.

(4) <u>Amount of Non-Credit Programs:</u>

    (a) Mr. Narveson notes to the group that we could use a different funding source (i.e. contract education, consortium)

    (b) Mr. Stutzman notes that in terms of apportionment funding, enhanced non-credit courses do not pay at the same rate as credit courses do.

       (i) Mr. Narveson questions if that is relevant in a basic aid district?

          1. Mr. Stutzman responds that if a college chooses to offer non-credit courses, that is their decision to make, which may not have much to do with the development of the allocation model. Mr. Stutzman further describes that non-credit has been included in our FTES, therefore any advantage or disadvantage that a college receives has been accounted for because credit/non-credit are both there.

          2. Ms. McKee comments that EVC is currently considering expanding non-credit programs, as it was previously a revenue source when the non-credit programs were more robust.

      (ii) Mr. Smith suggests to strike variable #4.

          1. Mr. Escobar reminds the group that we need to consider the operational cost when developing these credit/non-credit programs.

            a. Ms. Alexander comments that it is important that we remain consistent as we move through our research in this process. (i.e. the concern on 02/24/17 regarding $100k, with today's suggestion of taking this variable off the table.)

            b. Mr. Frazier cautions that when new programs are created, we need to consider the potential future institutionalization costs of those programs.

               i. Mr. Stutzman reminds the group that the concept of this revenue based model is to start with the revenue and how it will be distributed, then it is up to the colleges to manage those funds in the best interest to serve their student population.

          2. Ms. Kimura agrees that non-credit should be called out in some way, but it should be time sensitive. (i.e. the startup costs associated with a new program.)

            a. Mr. Narveson suggests that this group create a set of guidelines for the development of those additional programs.

               i. Mr. Stutzman agrees, the development of guidelines is of the utmost importance.

      (iii) Ms. Hanfling suggests that we move on, and while we review this list, we set them in priority order.

(5) <u>Number of disadvantaged students:</u>

    (a) Ms. Hanfling notes that Trustee Cruz requested at the 02-28-2017 Board meeting, that the RAM Taskforce look at this item through an equity lens. As such, the group decided to change number five to: <u>Equity Matrix/Equity Lens</u>.

    (b) There was a suggestion from the group to lump variable #12 with variable #5.

       (i) Ms. Ramirez voiced concern with combining these as EOPS and DSPS are categorical, thus they are in the fund 10 budget.

      (ii) The group agrees to keep variable #12.

    (c) Mr. Fitzsimmons reminds the committee that the metrics used to measure the variables will theoretically change year-to-year. Mr. Fitzsimmons continues that the committee should think

about where the data coming from, the accuracy of that data, and the timing related to the budget development process. Mr. Fitzsimmons further describes that there appears to be signals from this group to cut District Services, however if we adopt a model that has multiple variables, we will need to <u>add</u> services, to District Services in order to accommodate those added variables.

    (d) Mr. Smith poses the question: what is SJCC's equity lens, vs. EVC's equity lens worth?
        (i) Ms. Alexander responds, in her opinion, that this idea of placing worth on the equity lens is "counter-intuitive to the mission of this district to be on an equity lens, and then say that we are going to create competition for that equity amongst the two colleges."
           1. Mr. Narveson agrees with Ms. Alexander's comment and suggests that we strike variable #5.
           2. Mr. Smith responds that we will suspend this discussion for now, and move through the remainder of the list.

(6) <u>Athletic Programs:</u>
    (a) Ms. Alexander points out the need to consider expenses. For example, if one college receives more revenue than the other as a result of these athletic programs, then that college needs to absorb more of the expenses as well. (cost of staff, etc. – currently the staff is split 50/50).

(7) <u>Graduation Rate, Persistence Rate, Attrition Rate:</u>
    (a) Mr. Frazier notes that the goal is to create opportunities going forward; we should be rewarding success. Mr. Frazier continues by posing a question to the group as to how we create competition, causing colleges to get more student graduation outcomes.
        (i) Ms. Kimura follows Mr. Frazier's comment noting the need to use a rate, rather than pure FTES numbers, so one institution is not unduly penalized.
        (ii) Mr. Stutzman cautions that it sounds like the group is discussing performance based funding, which has not been widely accepted throughout the State, and in fact, SB 1143 was rejected by the system, as there was some concern with the possibility of districts "gaming" and placing more value on outcomes, which could possibly result in limited access to some students. Mr. Stutzman continues to note that, at the State level, there was a Student Taskforce dedicated to this effort, and it may be of use to this committee to review their work, should we decide to continue down this path.

(8) <u>Number of conferred Degrees and Certificates (Output):</u>
    (a) The committee agrees to combine variables #7 and #8 as long as they are per rate or percentage and not based on pure FTES numbers.
    (b) Mr. Escobar reminds the group that this list was created to provide a type of incentive program.
    (c) Mr. Smith reminds the group of the article that was distributed to this committee in September 2016 by Mr. Castilla that speaks to variable #7 and #8. (Attachment C).
    (d) Ms. Alexander reminds the group that we can find quantifiable data that can go either way.

(9) <u>Gross Square footage and assignable square footage:</u>
    (a) Mr. Stutzman suggests adding Grounds to this statement.
        (i) The committee agrees to this change.

(10) <u>Training and Staff Development:</u>
    (a) Mr. Narveson provides an example of EVC's Teaching and Learning Center.
        (i) Ms. Hanfling notes that, unless we receive funding from the State, the Presidents determine how much they want to contribute, and then both Staff Development Committees make decisions as to what type of training that funding will pay for.
    (b) The committee agrees this item can be placed at a low priority – tier 4.

(11) <u>Accreditation Status? Warning, affirmation, probation? - - :</u>
    (a) Mr. Fitzsimmons comments that this may be a dangerous road to go down, as in one instance we may be rewarding one college for not being on sanctions, or conversely we will end up rewarding the other college because of the need for funding to get off of sanctions.
    (b) The committee agrees this item can be placed at a low priority – tier 4.
    (c) Mr. Escobar comments that "in a way we could need more resources to get out of probation, however when it comes to graduation rate, due to our increased rate, our enrollment looks

lower because we haven't had available funding to put up front for enrollment, thus the amount of investment needed to get to a level of enrollment is different if graduation rate is faster."

    (i) Ms. Alexander notes that "variable #7, and variable #11 have the same argument."

(12) Special programs EOPS, DSPS:

    (a) Mr. Frazier notes that there are pockets of students that can be very costly.

    (b) Mr. Newton questions the VPAS's and Exec. Dir. of FS if this is an area that we have a great difference? Mr. Newton continues that the funding moved from fund 10 to assist these programs is driven by the Trustees, and not a college decision.

        (i) Mr. Fitzsimmons responds that each of the colleges does use a portion of their fund 10 dollars to support some of these programs.

        (ii) The committee agrees this item can be placed at a low priority – tier 3.

        (iii) Mr. Frazier notes that in the future, this area may be substantially different and warrant further consideration.

(13) Operational analysis:

    (a) Mr. Escobar suggests removing variable #13 from the list as it is picked up in variable #12 in terms of the additional costs needed at SJCC to accommodate the special needs program students. Mr. Escobar continues that it is worthwhile to review the total cost of operations (i.e. keeping the lights on, bathroom supplies, etc.).

    (b) Mr. Frazier notes the need to review whether or not there are operational costs at the colleges that are not being absorbed by agreements that should be at the district level. Mr. Frazier continues that if a college is unable to purchase an operational cost item, or repairs are needed….

        (i) Mr. Newton summarizes that it sounds like this item covers more of the idea around Total Cost of Ownership.

    (c) Ms. Kimura asks, for clarification, if we are including only the two campuses under this variable or all entities within the district?

        (i) Mr. Escobar suggests renaming this variable to: Total Cost of Ownership.

            1. The committee agrees with this name change.

(14) Staffing analysis – 2008 – today. Span of control, delegation ability:

    (a) Mr. Escobar comments that he continues to question how, prior to 2008, the college district as a whole ran so effectively. Mr. Escobar continues that in 2008 the district had many more students than we do now, and approximately 200 more people employed. Mr. Escobar suggests that we should have a point of reference to understand what shifted?

    (b) Mr. Smith summarizes that this is a data search request.

        (i) Mr. Escobar responds that, in his opinion, it would be informative for this committee to see the type of support and service levels provided at that time, and whether they were similar or vastly different compared to our current status.

            1. Mr. Stutzman questions who/how will the district perform this type of research, and how that will be completed in the context of an allocation model.

(15) How do we support categorical and grants (staffing, processing, activities)? - :

    (a) Mr. Escobar comments that this ties into variable #12.

        (i) Ms. Hanfling questions whether or not there is funding provided within a grant to help support staffing and processing activities?

            1. Mr. Fitzsimmons clarifies that, yes, some grants include funding to cover those types of costs, however "not all money is good money" in that most grants include limitations as to what the money can be spent on.

(16) What support was added and how will new funds and initiatives help enrollment (strong workforce, adult education, noncredit, dual enrollment.):

    (a) Mr. Escobar notes that we all need to consider what types of demands are being put on staff to operate these programs.

    (b) Mr. Fitzsimmons adds that District Services is in the same position, and notes that all of that funding should be distributed via a process that is required by all entities.

    (c) Mr. Newton questions if this variable is a college level variable?

<ol type="i" start="9">
Ms. Alexander responds that this is not a college level variable. Ms. Alexander further clarifies that, for example, the colleges are encouraged to apply for grants, whether the staffing to manage them exists or not (i.e. the application of the grant is not always a college decision, but it is a college mandate administered by the Board).

(d) Mr. Fitzsimmons notes that this applies to "total cost of ownership".

(17) <u>Cost of administration, instruction, services by entity:</u>

(a) Mr. Escobar comments that this applies to "total cost of ownership".

(18) <u>Discretionary funding – how much is for keeping the lights on:</u>

(a) Mr. Escobar comments that, without the RAM, discretionary is difficult for the colleges to manage.

    (i) Mr. Stutzman reminds the group that this is a "zero sum game" in that we have $95M at adopted budget, so how we decide to arrange that is the committee's decision.

        1. Mr. Newton notes that at some point we need to address if we are placing the funds where they need to be placed, or are there other places where we can make savings? Mr. Newton continues that the way that the budget model is constructed, the colleges receive the funding, they provide DS/DW with their funds without consideration for efficiencies, and then, as a result, the colleges are required to figure out how to accommodate those efficiencies. In closing, Mr. Newton states that we have to have the ability to monitor our efficiencies.

            a. Mr. Stutzman comments the approach being proposed here is better in that those costs are not off the top and are visible. The District Office has to justify their costs each year via Cabinet and at times DBC so there is transparency around what those costs are. Thus, moving forward, it will not be the same as it has been.

                i. Ms. Hanfling notes that there is currently a lack of transparency about where the district provides justification for their costs.

                ii. Mr. Stutzman notes that there needs to be some review of those services, which we have done with this committee.

                iii. Mr. Newton asks if we are we creating a budget process that is going to allow us to "shake money free" at a later time?

                iv. Mr. Narveson responds that all utilities are paid by the district, thus in an attempt to find different ways to 'shake money free', one possibility would be for SJCC to install solar panels on the top of their buildings. Mr. Narveson continues that one of the key things we need to remember is that some of these decisions are out of our control, as they came from decisions made by the Board of Trustees.

7) **Closing Remarks:**

a) Mr. Smith reminds the group that the next meeting is scheduled for next Friday, March 10th in EVC VPA 115 from 1:00 p.m. to 4:00 p.m.

b) Ms. Hanfling noted that the meeting went very well and there was good discussion control.

c) Mr. Newton recommends that the two VPAS's determine the top priorities from the variables list.

d) Mr. Escobar reminds the group that the colleges are not fighting against each other in this process, rather they are working together to be advocates.

e) Ms. Alexander echo's Mr. Escobar's comments and is passionate about this project.

f) Mr. Stutzman expresses appreciation to the group for its engagement, and understands the struggle to operate within these parameters. Mr. Stutzman adds that he continues to provide simulation recommendations, and that there are many ways the committee should be able to make this model/framework operate. Mr. Stutzman emphasizes that Simulation #7 allocates $30M on a basis other than FTES, thus he would not characterize this model as purely FTES. In closing, Mr. Stutzman comments that now is the time for the committee to bring their ideas forward.

Meeting adjourned at 4:01 PM

San Jose-Evergreen Community College District							
SB 361 Allocation FUND 10							
2016/17 Adopted Budget							
SIMULATION # 7 (3 YR. AVG ACTUAL FTES)							
REVENUE TO BE DISTRIBUTED		**SJECCD 3YR AVERAGE TOTAL/CREDIT, NON-CREDIT & NR (13/14; 14/15; 15/16)**	**SJCC 3-YR AVERAGE FTES**	**EVC 3-YR AVERAGE FTES**	**SJCC Allocation**	**EVC Allocation**	**Milpitas Extension**	**WFI**
CR & NC (RFTES)			12,334	5,965	6,369			
Non-Resident			408	248	160			
Total FTES			12,742	6,213	6,529			
Property taxes								
Secured	$	75,914,000						
Supplemental Secured	$	3,037,000						
Unsecured Roll	$	6,247,000						
RDA Passthru	$	1,242,600						
RDA Residual Payments	$	2,282,000						
Secured Homeowners Exempt	$	436,000						
Total Property Tax	$	89,158,600						
BASIC ALLOCATION	$	20,000,000			$ 10,000,000	$ 10,000,000		
Milpitas Extension	$	750,000					$ 750,000	
Workforce Institute	$	125,866						$ 125,866
COLLEGEPROGRAM/PERFORMANCE ALLOCATION	$	10,000,000			$ 5,000,000	$ 5,000,000		
PROPERTY TAX DISTRIBUTED PER RFTES	$	58,282,734	PER RFTES = $ 4,725.37		$ 28,186,842	$ 30,095,892		
TOTAL PROPERTY TAX ALLOCATION					$ 43,186,842	$ 45,095,892	$ 750,000	$ 125,866
Other Revenues								
Mandated Cost	$	1,440,733						
EPA	$	1,250,000						
Lottery	$	1,800,000						
Interest	$	157,530						
Other State Income	$	3,118,553						
Other local income	$	910,811						
Property Rental	$	150,840						
State Reimbursed Cost	$	214,336						
Use of facilities	$	170,672						
Other Financing Sources	$	227,376						
TOTAL OTHER DISTRIBUTED PER FTES	$	9,440,851	PER RFTES = $ 765.43		$ 4,565,808	$ 4,875,043		
TOTAL NON-CAMPUS GENERATED REVENUES ALLOCATED	$	98,599,451			$ 47,752,650	$ 49,970,935		
LESS:								
DW EXPENSE	$	12,548,875	11.44%		$ 6,118,741	$ 6,429,947		
Assessment per FTES			PER FTES = $ 984.83					
DISTRICT SERVICE EXPENSE	$	15,982,935	14.57%		$ 7,793,164	$ 8,189,533		
Assessment per FTES			PER FTES = $ 1,254.33					
NET ALLOCATION					$ 33,840,745	$ 35,351,455		
REVENUE PER FTES					$ 5,446.76	$ 5,414.53		
PLUS COLLEGE GENERATED REVENUE								
Instructional materials fees					$ 31,623	$ 4,565		
Enrollment fees intl students					$ 659,309	$ 636,420		
Enrollment fees residents					$ 2,748,236	$ 2,749,373		
Enrollment fees non residents					$ 366,801	$ 298,852		
Parking Fees					$ 133,227	$ 125,271		
Other local income					$ 191,201	$ 81,424		
B.O.G. (2% Admin Fee)					$ 118,715	$ 98,099		
Federal MAA Program					$ -	$ -		
Other financing sources					$ 350,000	$ 98,500		
TOTAL	$	8,691,616			$ 4,599,112	$ 4,092,504		
TOTAL REVENUE	$	107,291,067						
NET ALLOCATION + COLLEGE REVENUE					$ 38,439,857	$ 39,443,959	$ 750,000	$ 125,866
REVENUE PER FTES					$ 6,187	$ 6,041		
LESS EXPENDITURE BUDGET					$ 39,855,546	$ 40,417,692	$ 750,000	$ 125,866
EXPENDITURE PER FTES					$ 6,415	$ 6,190		
BALANCE/DEFICIT					$ (1,415,688.95)	$ (973,732.61)	$ -	$ -
Control Numbers (from Adopted Budget Document)								
Revenues in Adopted Budget	$	107,291,067						
Expenditures in Adopted Budget	$	109,680,914						
Deficit	$	(2,389,847)						

RAM Variables

1. Base Allocation based upon FTES
2. Overhead cost of CTE Programs
3. Percentage of Academic Programs vs. CTE
4. Amount of Non-Credit Programs
5. Number of disadvantaged students, such as:
    a. Hispanic Serving
    b. Asian Serving
    c. African-American Serving
6. Athletic Programs
7. Graduation Rate
8. Number of Degrees and Certificates
9. Training and Staff Development
10. Accreditation Status?

RAM Variables

1. Base Allocation based upon FTES for college and services allocations
2. Overhead cost of CTE Programs (Program cost analysis)
3. Percentage of Academic Programs Traditional vs. CTE
4. Amount of Non-Credit Programs
5. Number of disadvantaged students, such as:
    a. Hispanic Serving
    b. Asian Serving
    c. African-American Serving
6. Athletic Programs
7. Graduation Rate, Persistence Rate, Attrition Rate
8. Number of conferred Degrees and Certificates (output)
9. Gross square footage and assignable sq. ft
10. Training and Staff Development
11. Accreditation Status? Warning, affirmation, probation?
12. Special programs EOPS, DSPS
13. Operational cost analysis
14. Staffing analysis – 1998-today. Span of control, delegation ability
15. How do we support categorical and grants (staffing, processing, activities)
16. What support was added and how will new funds and initiatives help enrollment (strong workforce, adult ed, noncredit, dual enrollment..)
17. Cost of administration, instruction, services by entity
18. Discretionary funding – how much is for keeping the lights on

RAM Taskforce Variables

1. Base Allocation based upon FTES for college and services allocations
2. Overhead cost of CTE Programs (Program cost analysis) and Percentage of Academic Programs Traditional vs. CTE
3. Amount of Non-Credit Programs
4. Equity Matrix/Equity Lens
5. Athletic Programs
6. Graduation Rate, Persistence Rate, Attrition Rate
7. Number of conferred Degrees and Certificates (output), and gross square footage and assignable square footage, including grounds.
8. Training and Staff Development - Priority Tier 4
9. Accreditation Status? Warning, affirmation, probation? – Priority Tier 4
10. Special programs EOPS, DSPS - Priority Tier 4
11. Total Cost of Ownership
12. Staffing analysis – 1998-today. Span of control, delegation ability
13. How do we support categorical and grants (staffing, processing, activities)
14. What support was added and how will new funds and initiatives help enrollment (strong workforce, adult ed., noncredit, dual enrollment..)
15. Cost of administration, instruction, services by entity
16. Discretionary funding – how much is for keeping the lights on

4

Community colleges are under pressure to increase completion rates, prepare students for the workplace, and contain costs. Colleges need to know the financial implications of what are often perceived as routine decisions: course scheduling, program offerings, and the provision of support services. This chapter presents a methodology for estimating the cost of instructional programs for completers who follow the program's curriculum (program cost) and for students who follow a different trajectory, often not even completing a program (pathway cost). Together these measures provide important insights to guide decision makers.

Program Costs and Student Completion

Terri M. Manning, Peter M. Crosta

Introduction

Measuring cost has become critical for community colleges over the past five years. As economic conditions have deteriorated, record numbers of students have flocked to community colleges for retraining, whereas state support for higher education has decreased. Administrators readily know what it costs students to attend community colleges but may not necessarily know exactly what it costs colleges to educate students in different programs. In order to make better resource allocation decisions or improve production efficiency, it is important for administrators to have a framework for measuring and understanding program costs and related concepts (Belfield, Crosta, & Jenkins, 2014).

In this chapter, we discuss a way in which community colleges can estimate two important costs: costs for academic programs and costs for student pathways. As explained next, the two costs differ in that the program cost emphasizes instructional costs and assumes program completion, whereas the pathway cost does not. Both are important for understanding how community college students incur costs to the institution and to themselves and how changes in policy and practice may impact overall institutional cost and efficiency. We also present in this chapter an efficiency metric or cost per unit of output. The writers understand that there is a great variation across colleges and state systems in how colleges generate revenue and

distribute funding by department. The model identified here would need to be adapted by each state to make it meaningful at the local college level.

However, before discussing cost in more detail, it is helpful to understand the revenue source of community colleges. Most community colleges are funded on the basis of varying formulas that take into account tuition, fees, and appropriations from state, regional, or county governing agencies derived from taxes and on the basis of student seat time in classes. In some states, local property taxes also generate revenue that is not associated with enrollments. Overall, community colleges are the lowest funded sector of education and receive a set dollar amount for tuition and a set dollar amount per FTE (full-time equivalent) student or credit hours from their respective states, sometimes without taking into account the actual cost variation among programs and courses (Century Foundation Task Force on Preventing Community Colleges from Becoming Separate and Unequal, 2013). Some states (such as North Carolina) have created tiered funding as an attempt to address the costs of second-year and/or technical programs with high equipment costs and low faculty-to-student ratios. Tiered funding in North Carolina began two years ago, after the data for this study were collected. Other states partially fund colleges on the basis of performance or completion of students in degree or certificate programs. This performance-based funding has already taken hold in many states and may become a reality for most community colleges in the near future. Ultimately, colleges generally will spend whatever revenue they raise, from whatever the source. This chapter is written from the perspective of a college under North Carolina's funding formula prior to the onset of tiered funding, but the general ideas and methods could be extended to other states.

Why Estimate Costs of Academic Programs

When community college administrators look at cost studies, they are typically observing economic impact studies that quantify the return on investment for a student who completes coursework or for the community that invests dollars in public education. Depending on the state, colleges may not typically break cost down to the unit record level (by discipline, by course) in order to calculate costs per student per course, which are the building blocks of all programs. But by calculating unit-record-level costs, colleges can understand the factors that affect costs, where changes can be made to increase efficiency, and where recruitment and retention efforts should be focused.

In many cases, managers of academic programs are able to see their own budgets but have no common metric to measure costs across courses and are unable to estimate the college's investment for a student to complete any given degree program. But all courses are not created equal. Some are "cash cows," those courses that generate large numbers of FTE and are inexpensive to deliver (e.g., speech, English, history), whereas others are

very expensive to deliver and generate far fewer FTEs (e.g., engineering and nursing).

How to Estimate Program Costs

Program instructional costs (all costs incurred by an academic area or discipline in the delivery of courses) can be measured by anyone at the college who has access to financial and FTE reporting systems, but it is typically done by institutional research and financial services staff. Program costs can be estimated by utilizing the following: annual financial budget reports broken down by instructional department; regional, county, or other local funding sources; grants and contracts; FTE enrollment broken out by prefix and course; and credit hours calculated from FTE (e.g., 1 FTE = 32 credit hours in North Carolina). Cost can only be broken down as far as financial records can be obtained. For example, in some colleges, the behavioral sciences unit has one budget code that covers history, psychology, sociology, and so on. Cost can only be broken down to the department level, meaning that sociology costs and psychology costs cannot be differentiated from one another but will be the same. If the social sciences department has one budget code for each discipline, social sciences could be broken down to the discipline level. Budget codes assigned to departments are typically not assigned so that discipline areas can study themselves but rather for the ease of financial services staff to monitor budgets and conduct audits.

It should be noted that a great variation in calculating unit-level costs occurs across community colleges. In some colleges, equipment and technology are purchased and distributed through a central department, whereas at others those costs are allocated to the academic program or department. Once cost data are disaggregated by department and discipline, the data should be vetted by each academic area to verify or raise questions about data accuracy.

Table 4.1 provides an example of variations in instructional costs and reimbursement (revenue) levels for courses in various departments. The table shows some high-demand, low-cost departments (general education courses) and some technical program departments (higher cost courses). The cost column is generated from two key pieces of information: the FTE enrollment in the department and the total amount spent in that department's budget code on instruction. Cost is calculated on the basis of the instructional budget (revenue) for the program (including tuition and fees, FTE state reimbursement, county dollars, and grant funds) divided by the total credit hours generated (number of FTE times credit hours in an FTE).

In the 2008–2009 year, a student taking a three-credit-hour sociology course cost the college $115.38 (3 credit hours × $38.46), for which it was reimbursed (state appropriations) $302.52 (3 credit hours × $100.84). The college earned $187.14 more than it cost to educate the student. Keep in mind that if a student fails or withdraws from the sociology class and

Table 4.1   Cost per Credit Hour Versus State Reimbursement for Sample Courses at Central Piedmont Community College, NC

Department/Program	2008–2009 Cost (US$)	2008–2009 Reimbursement (US$)	2009–2010 Cost (US$)	2009–2010 Reimbursement (US$)
General education departments				
Behavioral sciences (e.g., psychology)	38.46	100.84	44.02	99.77
Speech communications	58.02	100.84	54.64	99.77
English, reading, and humanities	41.59	100.84	42.53	99.77
Mathematics	37.28	100.84	39.60	99.77
Sciences (e.g., biology, chemistry)	42.66	100.84	44.74	99.77
Spanish	41.04	100.84	38.57	99.77
Art	63.82	100.84	56.70	99.77
Computer science	56.05	100.84	54.69	99.77
Technical program departments				
Cytotechnology	418.38	100.84	533.74	99.77
Mechanical engineering	208.18	100.84	206.16	99.77
Nursing	124.67	100.84	126.10	99.77
Dental hygiene	264.95	100.84	224.56	99.77
Nondestructive evaluation welding	119.54	100.84	113.34	99.77
Criminal justice	101.77	100.84	114.73	99.77
Culinary arts	109.02	100.84	87.26	99.77

Note: North Carolina reimbursements were not yet differentiated by program in 2008–2009 or 2009–2010.

retakes it the next term, the college will again be reimbursed $187.14 more than it cost to educate the sociology student. Technical courses do not result in a net positive dollar amount. If in the same year a student enrolled in a three-credit-hour cytotechnology course, it cost the college $1,255.14 (3 credit hours × $418.38) to educate the student, for which it was reimbursed $302.52. The college was reimbursed $952.62 fewer dollars than was spent educating the student. If this student fails or withdraws from the course and retakes it the next term, the college will lose another $952.62.

What Can Unit-Record-Level Cost Data Do for Your College?

Because departments have different costs associated with their courses, academic programs that combine these courses will have costs that also vary greatly. Degree programs consist of general education courses, entry-level courses in the major or related disciplines, and second-year courses in the major that lead to a degree. For example, the Health Information Technology program listed in Table 4.2 shows that students in this program take courses from 10 different disciplines that all have different cost amounts

Table 4.2   Health Information Technology 2009–2010

Course	Credit Hours	Cost per Credit Hour (US$)	Total Cost (US$)	FTE Reimbursement (US$)
Required courses				
HIT 110	2	139.32	278.64	199.54
HIT 112	3	139.32	417.97	299.31
HIT 114	3	139.32	417.97	299.31
HIT 210	3	139.32	417.97	299.31
HIT 212	4	139.32	557.29	399.08
HIT 214	2	139.32	278.64	199.54
HIT 215	2	139.32	278.64	199.54
HIT 216	2	139.32	278.64	199.54
HIT 218	3	139.32	417.97	299.31
HIT 226	3	139.32	417.97	299.31
HIT 280	2	139.32	278.64	199.54
HIT 122	1	139.32	139.32	99.77
HIT 124	2	139.32	278.64	199.54
HIT 222	2	139.32	278.64	199.54
HIT 220	2	139.32	278.64	199.54
BIO 168	4	44.74	178.96	399.08
BIO 169	4	44.74	178.96	399.08
CIS 110	3	48.35	145.05	299.31
MED 121	3	79.88	239.63	299.31
MED 122	3	79.88	239.63	299.31
DBA 112	3	48.35	145.05	299.31
General education				
ENG 111	3	42.53	127.59	299.31
ENG 114	3	42.53	127.59	299.31
PSY 150	3	44.02	132.06	299.31
COM 110	3	54.64	163.92	299.31
HUM	3	42.53	127.59	299.31
MAT	3	39.6	118.80	299.31
Total	74		6940.423	7382.98
Profit or loss		Profit	442.56	

per credit hour generated. Although the Health Information Technology courses cost more to teach than was reimbursed from the state as FTE, the program made money for the college due to courses from 10 other discipline areas.

The three items that most influence the cost of programs are class size (total cost for a course divided by 30 enrolled students is higher than for 100 enrolled students), longevity/earnings of the faculty member, and high equipment needs for programs. Although colleges cannot always control for these issues, the following efforts can be made to decrease the numerator or increase the denominator and influence cost:

1. *Manage enrollment*. Make sure the correct number of sections is being offered to fill at 80% (or greater) of capacity. Efforts to increase

course completions and retention will also decrease costs and improve efficiencies (especially in high-cost programs where colleges spend more per credit hour than they receive in revenue).

2. *Consolidate programs.* Bring programs together that use similar equipment so that they can share microscopes, high-tech simulators, and technical equipment.
3. *Grow enrollment.* Bring in the marketing unit to help programs and courses grow their enrollment (potentially the quickest way to reduce cost).
4. *Take a look at the relevance of the curriculum.* Is it up to date? Is enrollment declining due to lack of employment opportunities in your community? It may be time to either reduce course offerings or develop an entirely new curriculum.

Colleges can also use cost data to raise funds within their communities. Students graduating from health programs such as nursing, dental hygiene, medical laboratory technology, and other high-demand majors are quickly hired by local hospitals and medical practices. Colleges can approach their community health organizations and ask for financial support in the form of scholarships or equipment to help subsidize or underwrite the costs of training these students. Organizations may be willing to participate, especially because corporate donations are tax deductible.

Why Estimate Costs of Student Pathways

Extending the method of determining program costs and combining it with longitudinal student data, one can compute costs of student pathways. This is important because the theoretical program costs discussed earlier often differ dramatically from the actual cost to the college as a student moves through her program of study once we take into account dropout and transfer. The program cost is one part of the pathway cost.

How to Estimate Pathway Costs

We introduce two concepts here that are related to the aforementioned program costs: the *pathway* and the *pathway cost*. A student pathway refers to the courses and services that a student consumes through his or her college career. This includes developmental education, traditional courses, online courses, student services, facilities, and administration. The pathway is fundamentally the student experience. The pathway cost refers to the costs incurred by the college for enabling the student to pursue an educational pathway. Pathway costs differ from program costs in three important ways. First, the pathway cost includes both instructional and noninstructional expenses. Second, the instructional side of the pathway cost will generally be different from the program cost as students move in and out of different programs of study. Third, the program cost assumes that a student completes

his or her program; the pathway cost allows for attrition. Importantly, this means that, generally speaking, every student's pathway cost is unique.

As mentioned earlier, program costs emphasize the instructional cost associated with a program of study as determined by budget allocations to academic departments. They exclude the costs associated with administration, student support services, college operations, and facilities, which can comprise up to half or more of a college's overall budget. It is a challenge to determine how students incur such costs, however, since usage patterns will vary considerably and will be undocumented. For example, some students may make heavy use of the library, whereas others do not; a heavy library user can be thought of as incurring greater noninstructional costs than a light library user. However, advances in data collection could provide colleges with more granular information about actual usage of services and, therefore, enable institutions to make more accurate allocation decisions. Analysts can make any number of assumptions to estimate noninstructional costs associated with pathways, but they largely amount to a scaling factor applied to instructional costs. For example, using data from the Integrated Postsecondary Education Data System (IPEDS), one may estimate that noninstructional costs (e.g., cost of facilities, students services staff, administrative support, and libraries) may be one to three times the measured instructional costs.

Measuring pathway costs for completers and noncompleters is essential to understanding how different types of students incur costs and for calculating realistic average pathway costs for different programs or student groups. Programs with high attrition or early transfer rates will have average pathway costs that are considerably lower than the estimated program cost. Therefore, pathway costs that take into account the true student pathway will provide a much more realistic sense of the costs incurred by students to the institution.

The Efficiency Metric: Cost per Unit of Output

Taking into account completers and noncompleters is also essential to measure output-adjusted pathway costs. Adjusted pathway costs provide a way to compare program costs on a scale that corrects for student success in each program. In order to do this, however, it is necessary to have a measure of output. Although education is a multiple-output process, calculating adjusted pathway costs requires an output measurement that is quantifiable and can be distilled into a single number. In the past, we have used an output measure called associate-degree equivalents, which considers an associate in arts degree as one unit of output (Belfield et al., 2014). Other degrees and certificates are worth a proportional amount depending on the average number of credits graduates complete. For example, if a 64-credit associate degree is worth one unit of output, but the average AA holder graduates with 70 credits, a certificate where the average certificate holder

earned 35 credits is worth 0.5 units of output. In the models detailed in Belfield et al. (2014), output was awarded only for completion or transfer but not for credits alone; that is, progress through credit accumulation is not considered output unless it results in completion or transfer.

Combining student pathway costs with an output measure enables the calculation of the adjusted pathway costs. More informative program costs result from the adjusted pathway cost. Consider the following example. The average pathway cost of 100 students who began college by taking developmental education courses is $15,000, whereas the average pathway cost of 100 students who began in college-level math and English is $30,000. Simply comparing pathway costs results in the conclusion that developmental education students are less expensive to educate than college-ready students. However, consider that the 100 developmental education students produce 10 units of output (developmental students complete credentials at a much lower rate than college-ready students) and the college-ready students produce 50 units of output. The adjusted pathway cost for all 100 developmental education students is $150,000 compared to the adjusted pathway cost of $60,000 for college-ready students: developmental education students are 2.5 times more costly to educate than college-ready students when considering both costs and outcomes. This exercise is not only useful for looking at different student starting levels but for comparing program-level costs. Which academic programs are the most efficient?

Consider the sample data shown in Table 4.3, taken from data at a North Carolina community college. The pathway costs are shown in Column 2, output in Column 3, and adjusted pathway costs (or cost per completion) in Column 4. Note that the college-ready pathway is more expensive than the developmental education (DE) pathway, but when adjusting for output, the cost per completion is much less expensive for students who start college ready. We also note, at this college, that students in allied health fields are more efficient than those in mechanics/repair programs even though the average pathway costs for these fields suggest that allied health programs are more expensive.

Changes in Adjusted Pathway Costs

Various community college reforms and interventions seek to reduce the adjusted pathway cost by either shrinking the cost of education or increasing the educational output. One question we might ask is how these interventions may impact expenditures and output. For example, a new student outreach program that identifies and provides support for vulnerable students may increase output for our developmental education starters but may also require additional resources. The intervention may, in theory, impact some students so that more developmental education starters complete the developmental education sequence and enter college-level coursework. What type of effect might this have on our cost model?

Table 4.3   Pathway Costs, Output, and Costs per Completion

	Number of Students [1]	Pathway Cost [2] (US$)	Output [3]	Cost per Completion [=1*2/3] (US$)
All students in 2005–2006	3,810	13,970	477	111,310
Full time in first semester	1,530	19,580	271	110,660
Part time in first semester	2,280	10,220	206	112,930
Field:				
Allied health	111	30,560	24	142,050
Mechanics/repair	120	21,710	15	172,470
General liberal arts/science	1,460	17,250	222	113,300
Business/marketing	170	16,320	24	117,890
Initial placement:				
College ready	200	19,670	53	74,180
DE placement level 1	880	18,040	157	100,820
DE placement level 2	580	17,860	80	129,680
DE placement level 3	860	15,390	76	173,390

Notes: College credits only; not remedial education credits. Weights are based on the average duration to complete the award. Only data for curriculum (award-bearing) students are reported. Numbers rounded to nearest ten.

Source: Adapted from Belfield et al. (2014, p. 336).

One way to estimate the impact is to simulate the expected new reality using our existing data on student pathways. For the above example, consider that of those 100 developmental education starters, 50 complete the remedial sequence and 50 do not. Assume that an intervention is expected to increase the percentage of sequence completers by 20%, so that 60 complete the sequence and 40 do not. We can design a computer program (e.g., Stata, SAS, SPSS, or R) that allows us to simulate what the pathway's cost and output for this simulated student body might look like. That is, we can randomly replace developmental sequence noncompleters with sequence completers and calculate costs and output. Repeating this process 1000 times or so and averaging the results will provide an estimated average change in pathway costs and an average change in output. For example, the new pathway cost for our 100 developmental education starters (postintervention) may be $20,000, and the new output may rise to 15 units of output. The new adjusted pathway cost for the 100 students is $133,333, an improvement from the $150,000 shown earlier.

Conclusion

This chapter provides an introduction to various ways of thinking about program costs and efficiency in community colleges. First, we discuss a method for determining the instructional expenditures of complete academic programs and note the profit or loss to the college depending on the

reimbursement rates for courses in particular disciplines. Understanding and comparing program costs using this method leads us to argue that colleges ought to think about managing enrollment, consolidating programs, growing enrollment, and redesigning curriculum as tools to manage costs. We then extend the program cost model to determine the costs for actual student pathways. We compare pathway costs for students in different academic programs or different college-readiness levels. We also adjust these pathways' costs for an output measure, which allows us to compare the production efficiency among programs.

It is important to highlight some limitations and risks of looking at program and pathway costs in this way. First, as noted earlier, it is not possible to accurately measure the noninstructional costs that are incurred by students. Better ways of measuring these are necessary in order to improve management of noninstructional spending. Second, the model is explicitly limited by the way in which a college performs accounting and budgeting. In our example, all courses in a department have the same cost per credit hour, but we know this is not true. Additional budget data would allow, for example, for lower level and introductory courses to be less expensive than for higher level and specialty courses within a discipline. Third, there are no clear guidelines for measuring output in the adjusted pathway cost models. We use associate-degree equivalents as an example, but output determinations should reflect the key outputs that the college is responsible for producing. There are many different ways to achieve this.

Suggestions for Practitioners

Measuring cost for courses, programs, and pathways is simply a way of estimating efficiency and effectiveness across programs at a given college. Although institutions of higher education may not like to see themselves as businesses with profit and loss statements, they cannot afford to lose money on every student in every program. They need to have a balance of cost across disciplines and courses. For colleges interested in studying the costs of courses and programs, the following suggestions are made.

1. Establish unit-record-level costs (by student by credit hour) for courses and programs and share it with midlevel instructional administrators (program, department, and division chairs/directors). By identifying and analyzing cost, people begin to understand it. Once it is understood, changes might be more easily made.
2. Be aware that faculty may not share an interest in reducing cost. They may also be concerned that many high-demand low-cost courses such as general education courses subsidize high-cost programs like nursing and engineering.
3. Use cost data as one indicator of the need for program revitalization, enrollment management planning, and marketing strategies.

The quickest way to reduce cost is to modestly grow enrollment in courses and programs (increases the divisor for cost), and to move students through programs while using proportionately less resources (sharing labs and lab equipment, for example).

4. Compare cost over multiple years to see if it improves.
5. Identify key student types and pathways where costs vary greatly, such as developmental students, undeclared majors, part-time students, and online students. Students may complete courses in any given semester, but their persistence to key milestones (e.g., completion of college-level math and English, accumulation of 15 or 30 credits) may be much lower than other student groups.

In this day of performance-based and completion-based funding, a pathway cost analysis can help a college understand where it is losing students and who is enrolling but not progressing. Once accepted, cost data can contribute to the increasingly important conversation around student success at any college

References

Belfield, C., Crosta, P., & Jenkins, D. (2014). Can community colleges afford to improve completion? Measuring the cost and efficiency consequences of reform. *Educational Evaluation and Policy Analysis*, *36*, 327–345. doi:10.3102/0162373713517293

Century Foundation Task Force on Preventing Community Colleges from Becoming Separate and Unequal. (2013). *Bridging the higher education divide*. Retrieved from The Century Foundation website: http://tcf.org/assets/downloads/20130523 -Bridging_the_Higher_Education_Divide-REPORT-ONLY.pdf

TERRI M. MANNING *is the associate vice president of Institutional Research and founder of the Center for Applied Research at Central Piedmont Community College, Charlotte, NC.*

PETER M. CROSTA *is the director of research at 2U, Inc., headquartered in New York.*