PART 3

Where to Put the New Basic Skills Funds:

A Tool to Estimate Costs & Downstream Revenue

Introduction

As referenced in numerous places in this document, research has fairly consistently demonstrated that the historical "one instructor, one classroom, limited suite of support services" model to developmental education is not particularly effective. However, it is still the prevalent model offered to the vast majority of our California community college students. Many of the effective practices identified in the literature review can be found interspersed on campuses throughout California, most commonly with relatively small programs addressing limited numbers of students. There are many reasons for the fairly restricted occurrence and scope of these programs, including:

- limited awareness about the literature and its findings;
- a need for paradigm shifts in the thinking of campus administrators, faculty, and staff;
- a concomitant need for organizational change;
- a lack of historically detailed institutional research to provide hard data evaluating program results; and
- a desire to pilot programs to determine effectiveness, often without sufficient institutional commitment to evaluate potential efficacy.

On the flip side, as is noted in the literature review, a significant amount of data exists which suggests that these alternative approaches are successful. In addition to the national literature, more locally, the Center for Student Success Web site summarizes a wide range of these programs, many of which have hard data indicating success. Further, after noting the largely depressing data on the effectiveness of the traditional model of developmental education in seven California community colleges, Johnstone (2003) also summarized a number of innovative alternate approaches in place at these seven colleges, each of which had hard data indicating increased achievement of student outcomes.

In addition to the reasons cited above for the relative dearth of reach of alternate approaches, arguably the most critical factor historically limiting them has been their perceived cost to the

campuses. Against a backdrop of limited resources that exists in the California Community College system, both in an absolute sense and relative to other state systems, the cost of deviating from the traditional model of providing developmental education is a significant concern. Thus, as the literature and local data lead us to investigate the need for colleges to "do things differently" in terms of developmental education, we are drawn to a discussion of the cost to individual colleges of these alternate approaches. Aside from the numerous moral/ethical responses to this concern and the greater economic payback to society cited elsewhere in this document, there are real, college-level economic reasons that alternate approaches to basic skills at the very least go a long way toward paying for themselves, and in many cases may very well result in a net economic benefit to the college.

The goal of this section is to provide a different way of thinking about the cost to colleges of these alternate programs.

What follows is an investigation of this incremental revenue approach to considering the cost of these programs, including a description of a simple modeling tool that we have developed using Microsoft Excel to look at the potential additional revenue these alternate programs may generate. The goal of this section is to provide a different way of thinking about the cost to colleges of these alternate developmental education programs. This approach is not without its parameters and caveats, but as colleges look to potentially expand small programs to more systemically improve developmental student outcomes, we feel that this different perspective is very important.

The Incremental Revenue Approach

For the purposes of this approach, we will assume that the traditional model of one instructor in one classroom for a standard class time is the benchmark against which we can measure the costs and incremental revenue associated with alternate programs such as learning communities, supplemental instruction, structurally required tutoring, dedicated counseling support, and the like. The overall idea, then, is to estimate and account for the incremental or additional annual costs and revenue associated with a given program that are incurred because the approach is different from the traditional model. There tends not to be much controversy about associating costs with the alternate programs; it is really in associating revenue that there has been little attention devoted.

If these alternate developmental education programs are successful, they produce not only higher rates of success in individual courses but also increased retention, persistence, progression to college-level coursework, and degree/transfer rates. Clearly, these outcomes are desirable from the standpoint of the mission of the college and the entire system, but there are also tangible economic benefits to be realized for the individual campuses. Specifically, these more successful and persisting students would produce downstream Full-Time Equivalent Students (FTES) that accrue as they progress through their developmental education work successfully, persist, achieve college-level work, and graduate/achieve transfer readiness at higher rates. This additional FTES generates additional apportionment revenue to the college at the rate of roughly $4,361 per FTES, which may very well offset much if not all of the incremental costs of some of these programs. As will be noted below, this revenue is not unencumbered by costs, but some significant portion of the revenue would be able to offset program costs.

It should be noted that this approach to calculating apportionment revenue from successful special developmental education program students is not without its caveats. A primary concern is that this analysis is somewhat problematic if a college is near or above its enrollment cap. A couple of years ago, when most of the colleges in the system were at or above their targets, this concern would have been much more immediate than it is now. In fact, at the moment, expanding these alternate developmental education programs might very well help colleges address their declining enrollments by increasing persistence and college-level achievement rates. However, if these

programs are extremely successful and applied to a larger cadre of students, the problem of caps would again become real. While this would be a good problem to have, as it would be caused by students being more successful, persisting, and achieving their educational goals, the system would need to account for this increase in FTES.

As an observation, however, we would hesitate to identify successful developmental education programs as the reason a college exceeded a cap number, with the myriad of segments that make up enrollment at our colleges. Additionally, we would observe that in a sense, current enrollment caps are at least partially based on our historical failures as a system at fostering the progression of developmental education students to college-level work and eventually to graduation and/or transfer. These rates of achieving college-level success are commonly less than 10 percent for students at the lowest levels and in the 30-40 percent range for students in the middle/upper levels. If we transform our system and become much better at improving these rates, we will need to address the cap issue that will emerge from this success.

Another important observation is that we are in no way claiming that the current level of funding for the standard suite of instruction and services is adequate. We are comparing costs and downstream revenue from these non-traditional basic skills programs to the standard programs; however, a team led by John Spevak and Hoke Simpson on the Real Cost Project (2003) has noted that the "real cost" of providing instruction and services in California for each FTES under the traditional model is actually over $9,000. Given that the colleges are currently reimbursed at $4,361 per FTES, there is clearly a structural problem that results in students not receiving the full suite of even the standard services. This becomes more critical as we think about expanding special programs to a wider audience.

Excel Model Instructions

To illustrate this line of thinking, we have created a model in Microsoft Excel that can be fairly easily applied to any alternate basic skills program. Users have the opportunity to assign personnel and fixed costs to the program. Then, with a small amount of institutional research on incremental FTES associated with the program, potential revenue generated by the more successful students with higher retention rates that emerges from the alternate program can be estimated. In the end, these models can be utilized to help college decision-makers understand the potential cost/benefit implications of expanding existing programs or developing new ones.

SECTION 1 Enter the number of students served in the program annually.

SECTION 2 Enter the Position Title (A), % FTE (B) and Salary (C) for any incremental personnel associated with the program over and above what a traditional program would incur. The Prorated Salary (D), Benefits (E), and Cost (F) will be calculated automatically. If you wish to use a separate benefit ratio, you can change the formulas in (E) to reflect a figure other than 35%.

SECTION 3 Enter any costs of incremental hourly personnel associated with the program over and above what a traditional program would incur, including student and/or professional tutors. You can enter data for Number of Employees (B), Hourly Rate (C), and Annual Hours per Employee (D), and the model will calculate the cost in (E) automatically. As an alternate approach, if you have a yearly budget or line item cost and don't have cost amounts broken out this way, simply enter the total directly into (E), overriding the formula.

SECTION 4 Enter a description of any incremental fixed-cost items associated with the program (A) and their annual cost (B) over and above what a traditional program would incur. This may include equipment, supplies, and facilities. We would suggest amortizing any equipment costs such as computers purchased every four years to an annual figure in whatever manner you see fit.

We also acknowledge that estimating facility costs may be somewhat complex. In the end, we would emphasize that this type of approach attempts to estimate costs of these alternate programs relative to the traditional model. That is, is any space utilized by this program creating a cost elsewhere on the campus by "displacing" a separate program/office? We could conceive of situations where there is ample space on campus and operationally there is no cost to providing a learning community program with office space. On the flip side, on campuses with serious space constraints, there may be a very real facilities cost to such a dedicated office or student meeting space. In the end, it is up to each campus to determine whether they wish to associate facility costs to these programs.

SECTION 5 In this cost summary, the costs from Sections 2, 3, and 4 are summarized and totaled here, providing an annual cost of the program.

SECTION 6 This is the pivotal section for the revenue side of the analysis. If these alternate programs are successful, students will have increased levels of course success in the initial developmental course, increased rates of persistence to future developmental and other coursework, a greater developmental coursework completion rates, increased readiness for college-level work, and finally increased success and persistence in their college-level coursework. From a revenue standpoint, each of these increases would result in increased contact hours for each student, which would translate into increased revenue through FTES reimbursement.

For the model, then, the key metric is to enter actual or estimated downstream subsequent contact hours from students in the alternate program and students in a control group under the traditional model. Clearly, it would be ideal to enter actual figures, and we would expect that most Institutional Research offices would be able to provide these figures. If you do not have this data, you can still use this section – see below for advice on how to estimate these figures. If you do have access to this data, you will need to enter four data points in this section, with four calculated automatically:

1. Students in Program Annually – same as in Section 1

2. Subsequent Total Contact Hours from Students in Program – this would be the total contact hours generated from students in program *in the semester/quarter they start the program and subsequent semesters/quarters*. This is a critical distinction – you don't want to include lifetime total contact hours for students in semesters/quarters before they enter the program. We would suggest tracking forward as far as you can go, but at least three years would be ideal.

3. Students in Control Group – a control group needs to be formed for the tracking of subsequent contact hours as well. Many approaches could be taken to forming this control group. Using an English Basic Skills Learning Community that pairs English 100 with a Counseling course as the example, the simplest approach would be to form the control group by taking all students in English 100 in the given quarter/semester not in the Basic Skills Learning Community program. A more complex route would be to match students in a control group to students entering the Learning Community on demographic variables, units taken, etc. Aside from concern with extremely small groups from a statistical standpoint, the size of the control group doesn't matter – the model will account for this in its calculations.

4. Subsequent Total Contact Hours from Students in Control Group – same as #2, for control group.

5. Incremental Total Contact Hours from Students in Program – calculated automatically, with an adjustment for the relative sizes of the control group and program group. Thus, if the control group and program group are the same size, this figure is simply the difference in contact hours between #2 & #4. In cases where the control group size and program group size are different, the figure calculated in this cell is what the difference would be if the control group was the same size as the program group.

6. Percentage Increase in Total Contact Hours from Program – calculated automatically – adjusted to number of students in the control group

7. Incremental FTES from Students in Program – translates contact hours to FTES automatically.

8. Potential Revenue from FTES – calculated automatically.

A significant portion of this FTES revenue could be conceived as available to offset program costs.

If you don't have the data available for #2 and #4 or if you want to compute "what-if" scenarios with various contact hour increases, you can simply enter the number of students in the program in #1, the same number of students for a control group in #3, and then enter estimates for #2 and #4. By doing so, you can manipulate the size of the increase to determine the potential effect on FTES and revenue. Note that it is the absolute difference between #2 and #4 that determines the Incremental Total Contact Hours (#5) and thus the Incremental FTES (#7) and Potential Revenue (#8), while the relative sizes of #2 and #4 as well as the absolute difference will determine the Percentage Increase (#6).

These latter three figures in Section 6 (#6-#8) are the keys to this analysis – and in many cases will reveal that these supposedly expensive programs either go a long way to recovering their costs or in fact fully recover costs and create additional revenue.

On the Potential Revenue from FTES (#8), it should be noted that this potential revenue is not free and clear from a cost standpoint. First, there will likely be additional instructional cost for students who are successfully being retained and made ready for college-level courses. Certainly this is a good "problem" to have. Many if not most of these students may very well fill non-full classrooms, but there certainly will be the need to open some additional sections, which then incurs instructional cost. Ironically, this cost will be relatively higher at more efficient schools, where a higher majority of classes are full or near full. Conversely, many of these successful basic skills students will likely funnel into highly productive programs in the general education sequence (i.e. large lecture courses), so the cost may not be as high as it would be in other domains of the curriculum.

Secondly, as with all revenue generated from FTES, there is an associated overhead cost. Estimating this overhead is very complex, especially for "incremental" FTES that may or may not increase a college's infrastructure. Different campuses would estimate this figure with quite different methods; as such, we have not attempted to designate a methodology to investigate this overhead cost. We would argue, however, that a significant portion of this FTES revenue could be conceived as available to offset program costs. In our internal discussions and with various observers, estimates for the percentage of this FTES revenue that can be referred to as "profit" available to offset program costs ranged from 40% to 75%.

Real-World Examples of Excel Models

In the Appendix for this Section, we have included real-world examples of the models with real data from four campuses to demonstrate how this framework can be implemented for different types of alternate Basic Skills approaches. The samples are included to provide examples of the types of costs and incremental FTES that a campus might encounter in these types of programs – each campuses' instance of a given type of program might vary widely both in cost and its effect on students success. The ultimate value in this approach is to customize these models for the existing or proposed programs on each campus with real costs and incremental contact hours & success rates.

The colleges and programs included are:

These models should not be used to compare programs across colleges.

- **Cerritos College's Learning Communities Program**
- **Chaffey College's Service Learning Program**
- **De Anza College's Math Performance Success Program** (Dedicated Counselor, Increased Time on Task)
- **Foothill College's Pass the Torch Program** (Supplemental Instruction)

AN IMPORTANT NOTE: Given that different colleges will have different methodologies for computing metrics and will have different approaches to estimating the various parameters in the model, these models should not be used to compare programs across colleges. Ultimately, the value of this tool is that colleges can internally use it in a customized fashion to explore the cost/revenue relationships of the various programs within their college.

Final Thoughts

So where does this leave us? The bottom line, in our opinion, is that for many of our special basic skills programs, this type of analysis demonstrates that these programs are nowhere near as large a financial burden as is commonly conceived. In fact, in the case of some particularly efficient alternate programs, they very well may have a net financial benefit to the college. Given that we certainly wouldn't suggest a single approach will work for our diverse student populations, we would expect that a mix of programs would have both the benefit of matching student needs and potentially blending more cost-effective alternate approaches with more expensive approaches.

Finally, given what the research has told us about the success of the traditional model and the success of many of these alternate approaches, and for the moral, ethical, and societal reasons mentioned in Chapter 1 above, we feel that the individual colleges as well as the community college system as a whole should be attempting to investigate strategies to institutionalize these alternate approaches. Certainly there are a range of issues that enter the picture as we talk about institutionalizing these alternate programs – including that larger programs will undoubtedly experience at least some decrease in incremental success rates. However, it seems as if this direction of inquiry is valuable for the wide range of reasons cited in this report, and we are hopeful that this angle of analysis can spur additional consideration for these programs.