Allocating the Higher Education Book Budget: A Process That Works

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A common problem which confronts administrators is the allocation of scarce resources to programs. The dual impact of the inflationary spiral and the reduction in appropriations has intensified distribution decisions for higher education in recent years. Resource sharing is further complicated when attempts to parcel out materials carry with them differential impacts upon programs.

Through the years, in our school, we resisted efforts to develop a systematic procedure for the redistribution to departments of funds allocated to our school for the purchase of print materials to be housed in the University Library. In retrospect, we have concluded every year that certain "aggressive departments" had received a disproportionate share of these funds as they were dispersed on the first-come, first-served basis which traditionally had been used. A careful study of last year's results, plus a significant reduction in available funds for library resources, spurred new efforts to develop allocation procedures with a formula base. These deliberations resulted in the development of a proposed allocation system which was accepted by the Administrative Council of 18 members without a dissenting vote.

Consideration of Variables

We began our development of the formula by considering a number of variables. The variables eventually incorporated in the formula were: size of programs (number of students), number of programs, levels of study (undergraduate and graduate) and type of program (preparation or service). The narrative which follows describes the consideration given these variables, presents the development of the formula, applies the developed formula to last year's allocation and, finally, compares

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Figure 1

Allocation As a Function of Graduate and Undergraduate Programs
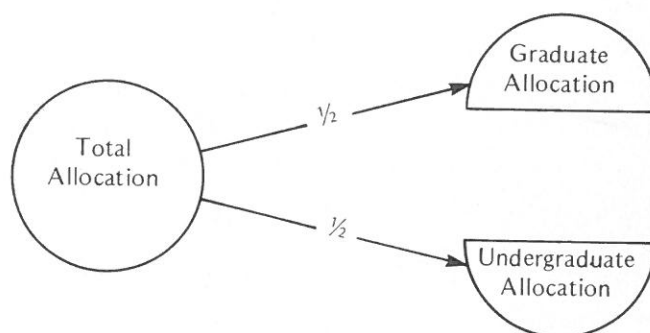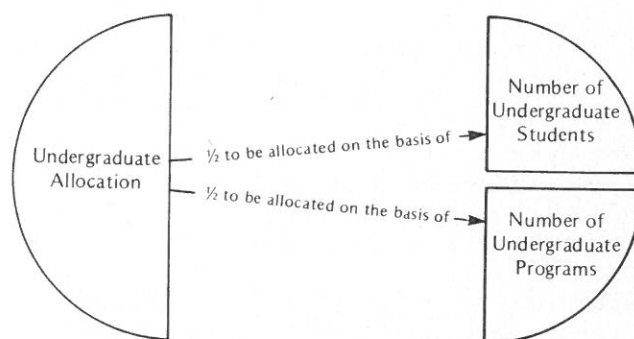

Figure 2

Allocation As a Function of Number of Students and Number of Programs

the amounts derived by the formula with the actual amounts spent by the several departments in 1974-1975.

1. Clearly, allocation levels should take into account the total number of students enrolled in each department. Obviously, those departments with the greatest teaching loads should receive larger allocations for educational materials.

2. However, total numbers of students enrolled in a department cannot be the sole criterion for fund allocations. A factor of equal importance is the number of different programs and courses a department offers. We found that some departments with large student loads had few programs; therefore, they needed a smaller amount of outside reference material. Hence, the number of different programs a department offers must be included as a variable in the formula.

Table 1

Computation of Departmental Undergraduate
Allocation: An Example

		Dept. A	Dept. B	Dept. C	Total
1.	UNDERGRAD ENROLLMENT	554	577	0	1131
2.	UNDERGRAD PROGRAMS	9	3	0	12
3.	Percent of Students in School of Education	.48	.52	0	1.00
4.	Percent of Programs in School of Education	.75	.25	0	1.00
5.	Line 3 x $400.00	$192.00	$208.00	$100.00	$500.00
6.	Line 4 x $500.00	375.00	125.00	0	$500.00
7.	Undergrad Allocation	567.00	333.00	100.00	1000.00

Explanation:

1. The amount ($2000.00) was divided by two; this is the provision in the formula based on undergraduate students and programs.

2. Line 7 is the total of line 5 and 6.

3. The same process with different figures is applied for the graduate students and programs.

4. The total departmental share is the undergraduate plus the graduate allocation.

In actual practice we identified two departments that provided a service function. One department was allocated 10 percent of half the undergraduate allocation and 15 percent of half the graduate allocation. The second department provided the service function only for a limited number of undergraduates and was allocated five percent of half the undergraduate allocation.

3. As the percentage of graduate students to the total number of students became gradually higher, the need for reference material greatly increassd. Graduate classes have traditionally required more research and use of outside print materials than have undergraduate classes. Therefore, priority was assigned to graduate enrollment in the developing formula.

4. Reflection upon past efforts to develop a formula to allocate funds for print material and the preliminary efforts to apply our developing formula led to emphasis on the service function provided by some of our departments. The prime example is in the department of Foundations of Education, which currently has no degree programs; but traditionally the department has carried a large student load. It was recognized that some provision would have to be made for service departments. The service function provided by departments with degree programs through supporting courses was discussed, but a decision was made not to include this dimension in the formula.

5. A final consideration that influenced our planning was the availability of data needed to apply the formula. In our school the Student Personnel Services, on a quarterly basis, compiles data pertaining to student enrollment by department and program. Our applied formula uses fall quarter data as reported by Student Personnel Services.

Table 2

Comparison of Expenditures with Proposed Allocations

Departmental Expenditures	Formula	Difference
$ 2,657.38	$ 2,266.74	-$ 390.64
1,456.09	1,881.00	+ 424.91
6,550.76	3,667.29	- 2,883.47
765.99	3,746.22	+ 2,980.23
167.85	1,244.98	+ 1,077.13
2,623.28	1,360.00	- 1,263.28
1,850.75	726.24	- 1,124.51
955.96	1,127.70	+ 171.74
988.88	2,034.36	+ 1,045.48
Total $18,016.94	$18,054.53	+$ 37.59

Computations in Applying the Formula

Within the framework provided by the consideration of the variables described, we began to develop a formula. First, we divided our funds in half, so that half is used for the graduate program and half is used for the undergraduate program (consideration 3). See Figure 1.

Next, we divided each of the resultant undergraduate and graduate allocations by two, so that half of each is reallocated on the basis of student enrollment and half on the basis of the programs (considerations 1 and 2). Figure 2 shows our formula for allocation at that point.

We then computed a departmental percentage of undergraduate students and undergraduate programs. We multiplied each departmental percentage of undergraduate students by one-fourth the total allocation (the amount to be allocated on the basis of number of undergraduate students). The same process was followed to determine the departmental allocation for number of programs. The total of these two computations resulted in the departmental undergraduate allocation.

The process was repeated to determine the departmental graduate allocation. The departmental total allocation is the departmental undergraduate allocation plus the departmental graduate allocation.

We now had a workable formula, but it did not take into consideration the service function of certain departments (see consideration 4). After much discussion, we decided to provide for consideration 4 by allocating a percentage of the monies allocated for number of students, both graduate and undergraduate, to departments with service functions. Table 1 shows the computation of the reallocation of funds for an illustrative allocation of $2,000.00 at the undergraduate level. (Note that department C is a service department and that 20 percent of Line 6 is allocated to that department.)

Table 2 presents a comparison of the funds the departments actually expended during the school year 1973-74 with the funds that would have been available had the formula been in effect.

One additional policy was initiated to support this allocation scheme. On April 30 of each year, unexpended funds are removed from the department's allocation and put on a "first-come, first-served" basis. This is necessary to insure that the total amount allocated is expended.

We recognize that our formula is not the "final answer." Its application can be modified or adjusted by the Administrative Council of the School of Education to provide for innovative programs or departments. However, the funds can be used without any action on the part of the Administrative Council; and, because of this fact, little delay is experienced in providing allocation information to the departments.

Since its adoption, our formula has saved much discussion and argument about the size of the allocation to go to each department. Allocation determination has been systematized and is almost automatic. No additional decisions are required unless the Administrative Council wishes to change the formula.

This approach to fund allocation should be appropriate, with modification, to several types of schools and school systems. Not only does this system reduce the amount of discussion required each time funds are received, but it should enhance the probability that departmental funds are utilized in an equitable manner. ☐

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