Assisting the President by an Analysis of Cost Data

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An equitable distribution of the budget is one of the most difficult problems confronting a university president. There are many reasons for this. Some of the deans possess greater tact and can paint a more glowing picture of their needs. Thus, they may receive a lion's share of the budget. Furthermore, the president is so dependent on his subordinates for information that he may experience difficulty in determining the exact purpose for which the various appropriations are spent. A **somewhat crude example of what I mean is illustrated by the following story:**

In a **small town where I used to live, the annual budget for the local fire department carried a sizeable item for "feed." Eventually it occurred to the mayor that an investigation should be made because the fire department had not used horses for a number of years. When questioned, the fire chief admitted that his last horse died five years ago but he promptly added, "The chief still has to eat."**

The registrar should be able to assist the president in making an equitable distribution of the budget. It is the purpose of this discussion to point out some of the ways in which this may be done.

In **the first place, the president may want to know how the entire budget is distributed. The selection of the general divisions of the budget is a perplexing problem and will have to be made according to the institution in question, after consultation with the president. Too many divisions make the budget over-complicated, while too few destroy its usefulness.**

Figure 1 shows how the budget was distributed at one institution. This figure shows the following divisions of the budget:

Item	*Per cent*
Instructional	75.6
Administration	12.0
Maintenance and Operation	12.4

ample, the instructional item in the chart has been divided to show "Allied Instructional Cost," 13.1 per cent.

"Allied Instructional Cost" is not used so commonly as a division `

of the budget and it may be worthwhile to say a few words about it. Under this heading we can place such items as the library, pensions, placement bureau, training school, etc. Such a classification can cover those items which we do not wish to separate definitely from instruction, but which, if included in the instructional budget for any particular college on the campus, will give that college an unfair unit cost. For instance, if we include the training school under the instructional budget of the College of Education, that college will have a unit cost which is too high, and we have to make excuses to justify it. What we should do is classify our items so excuses of this nature are unnecessary.

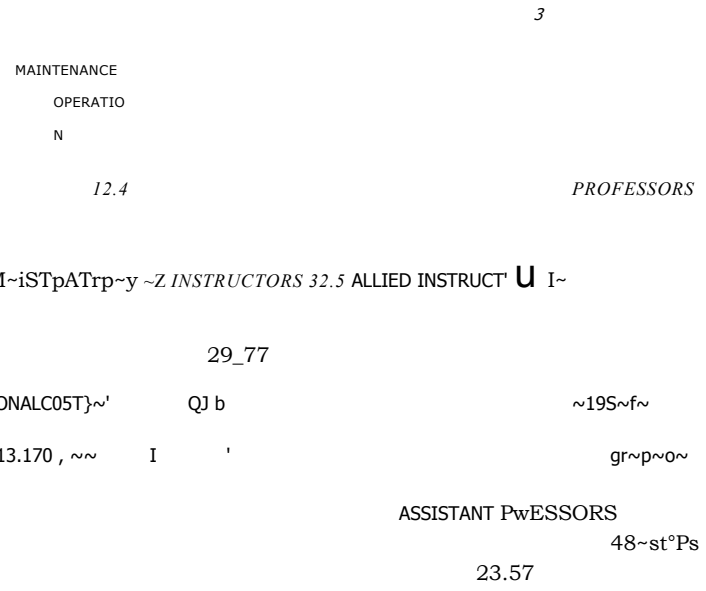


FIG. 1. Distribution of the budgeted expenditures, first semester 1934-35.

FIG. 2. Distribution of the teaching faculty according to professorial rank, first semester 1934-35.

As a second main point, the president may find it helpful to know how the faculty, the teaching load, and the salary budget are distributed according to professorial ranks.

Figure 2 shows the distribution of the teaching faculty; Figure 3 shows the distribution of the student clock hours; and Figure 4

tirement, replacement and in determining the relative costs for the various colleges in the institution.

As a third point, the president certainly will be interested in the relative unit-costs for the different colleges on the campus. In calculating these costs it may be desirable to use several measures, because the relative position of a certain college can be affected according to the measure employed.

Figure 5 shows costs per full-time equivalent instructor; it answers the question, "How much is the college or division expending to keep one full-time instructor in the class room?" Figure 6 gives the cost per enrolments, or course registrations; Figure 7, costs per

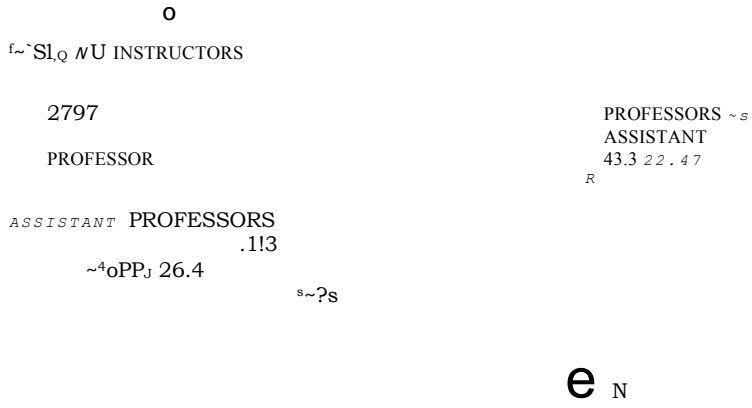


FIG. 3. Distribution of the clock hours according to the professorial rank of the teacher, first semester

FIG. 4. Distribution of the salaries according to professorial rank, first semester 1934-35. 1934-35.

student-clock-hour; and Figure 8, costs per full-time student equivalent. I believe this is the first time a cost study has been reported before this association in which the full-time student equivalent was used as a measure. Because of this, I feel that a few words should be said about the concept and calculation of the full-time student equivalent. In the first place, it attempts to answer objectively the question, "What, for statistical purposes, constitutes *one* student?" Certainly for reliable computations, the student who carries half a normal load for half a year should not be counted equal to the student who carries a full load for one

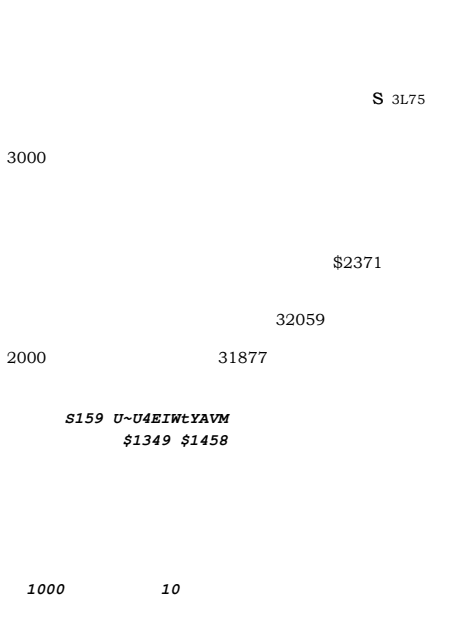


FIG. 5. The departmental salary costs per full-time equivalent instructor for each college, first semester 1934-35.

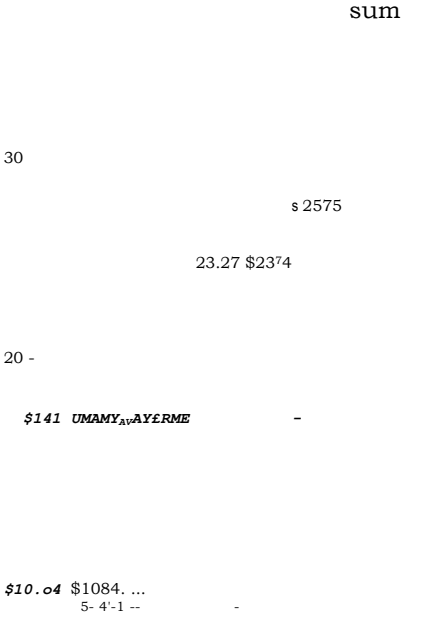
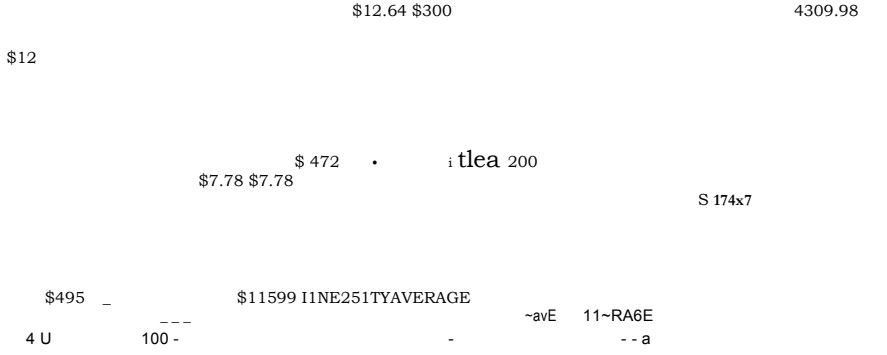


FIG. 6. The departmental salary costs per enrolments for each college, first semester 1934-35.



99 the student who carries an overload will be proportionally more than a unit student, and the one who carries less than a normal load, or
attends less than a full school year, will be proportionally less than a unit student.

Let us examine the details of these figures: first, we find considerable uniformity from measure to measure. For example, college "one" occupies the position of lowest cost on the first three of the measures and second lowest on the fourth. College "six" has the highest cost position for the first three measures, and second highest for the fourth. On the other hand, some colleges show decidedly more variation from measure to measure. Thus, college "two" occupies the following positions in succession: second, fifth, fourth, and sixth.

The question naturally follows as to which measure is the best. In general, those who were consulted about the various measures felt that the cost per full-time student equivalent was the best. But we find some interesting differences of opinion. For example, the dean of college "three" is quite partial to the cost per fulltime student equivalent. On the other hand, the dean of college "two" makes the following remark about the same measure, "There are many reasons why I do not like this figure."

One other point before I close, and that is in regard to the preparation of the budget. Unless the budget is made out so that it makes a distinction between instructional and non-instructional costs, any survey is bound to show excessive unit costs in certain divisions.

As an institution grows and the various colleges or departments gradually take on certain service activities such as placement work, guidance, testing programs, high school visitation, and clinical work, there is a great temptation to include these items under the regular budget for instruction. But this leads to disastrous results if a cost survey is made. Look at college "six." It was found that 40 per cent of the expenditures of that college which were classified as instructional actually went for non-instructional services. The expenditures for such services should be included under the "Allied Instructional Cost" mentioned in the first of the discussion. Those who have had wide experience with survey commissions tell me that they are far more critical of an excessively high instructional unit cost than they are of money spent for desirable allied instructional services.

APPENDIX

EXPLANATION OF TERMS

Those who are inexperienced in making cost studies in institutions of higher education may find the following explanations helpful:

In the first place, it is probably obvious that the amount of unitcost is determined by dividing the cost by the number of units. For example, if the cost of teaching 1,000 student-clock-hours is $20,000, the cost per student-clock-hour is $20.

Full-time equivalent instructors. This may be obtained by caldulating (or assuming) a standard credit-hour load and expressing each instructor's full-time equivalency in terms of this standard. For instance, if the standard load for a full-time instructor is 15 credit hours, then an instructor who teaches 10 credit-hours is counted as 2/3.

Where this method does not seem feasible, it is possible to obtain the information by conferring with the dean, or some other administrative officer, who is familiar with the work of the instructor considered.

The unit-costs using this measure are shown in Figure 5.

Enrolments. This term does not refer to the number of different individuals registered but rather to the sum of the course registrations. Perhaps it can be most easily understood as the number of class tickets. If a department is teaching five courses with the following numbers in each course: 10, 15, 20, 20, and 25, the enrolments for that department are 90. The unit-costs using this measure are shown in Figure 6.

Student-clock-hours. One student-clock-hour means one student in a recitation, lecture, or laboratory for one hour a week. Thus, ten students in a course which meets three hours per week represent 30 student-clock-hours. Notice that recitation, lecture, and laboratory are counted equal under this concept. Figure 7 shows the results using this measure. (The term student-clock-hours has been abbreviated to clock-hour.)

Full-time student equivalent. In the present study the full-time student equivalent was obtained by dividing the number of studentcredit-hours by the normal load. If a college teaches 4,500 studentcredit-hours in a year and the normal yearly load is 30 credit-hours, the full-time student equivalent is 150. The student-credit-hours in an individual course are obtained by multiplying the number of

01 students in the course by the number of credits that course carries. The results using this measure are shown in Figure 8.

Note: A full discussion of the full-time student equivalent and the various methods of calculating it are given in Bulletin Number 6 of the National Committee on Standard Reports for Institutions of Higher Education. Bulletin Number 3 of the same committee gives an excellent discussion of methods of unit-cost studies.