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Trevor Arnett, of the general education board, in his book *College and University Finance* divides the colleges and universities of the United States into two classes: first, the endowed institutions; second, the tax-supported institutions, although even these may derive part of their income from endowment. This article deals with the first class, that is, institutions no part of whose income is derived from taxation.

It is generally conceded that the endowed colleges and universities of this country do not maintain proper accounting systems. As Mr. Arnett has stated, this is because the trustees of a college, although often successful business men, accustomed in their own businesses to rigid accounting methods, have placed complete trust in college administrators and have seldom insisted upon the adoption of adequate accounting systems for the colleges which they serve. Furthermore, when the trustees have insisted upon a modern system of accounting, the result has often been the installation of a system admirably adapted to the needs of a commercial concern, but not suitable for an educational institution. A college is not operated for the purpose of making a profit. Moreover, most colleges properly operate on a cash basis. Therefore a system which provides for the accrual of income, the setting up of depreciation on buildings, etc., does not fulfill the requirements of an educational institution.

The financial transactions of a college fall into three classes: first, those relating to endowment; second, those relating to plant; and, third, those relating to current operations. A chart of accounts should take cognizance of these classes and should be so devised that the sum of the debit and credit accounts under each class should balance. Each of the three classifications named above will be discussed separately and accounts which pertain to each and are common to all colleges will be considered.

Endowment

Since a large part of the income of endowed institutions is derived from endowment it is important that the accounting system provide for the recording and the safeguarding of endowment funds.

Mr. Arnett's definition of endowment is: "a fund which shall be maintained inviolate, the income of which shall alone be used." With this definition in mind it will be understood that gifts for college, land, buildings and equipment are not in any sense endowment. They should be recorded under the plant section since the fixed assets for which they are given will not be income-producing. There is a difference of opinion as to whether or not fixed assets which do produce income, such as dormitories and dining-halls, should be classified as endowment or plant assets. It is generally agreed, however, that, since these assets do not produce a fixed income and, in fact, are often operated at a loss, they should be included under fixed assets. Accepting the above definition of endowment it will be plain that gifts, the principal of which, as well as the income, may be used, are not endowment. Such gifts should be included under the operating section.

Endowment funds may be divided into three classes: unrestricted funds, restricted funds and funds subject to annuities.

Unrestricted funds are those the income from which may be used for any of the needs of the college.

The income from restricted endowment funds may be used only for the purposes for which such funds were given. Under this heading come professorship, lectureship, scholarship, student aid and prize funds. In accounting for the income from restricted endowment great care should be used since if the income from a fund is not expended during the college year the unexpended portion must be deferred and used for the same purpose during the succeeding year or years.

Endowment funds subject to annuities cover gifts which are subject to annuity payments during the lives of one or more persons. The investments of each fund should be kept separate and the fund accounts should not be commingled with other endowment-fund accounts. It frequently happens that the annuity payments provided for in the deed of gift exceed the income from the investment of the fund. In such cases the final amount of the fund which can be added to endowment cannot be determined until after the death of all the annuitants, hence the necessity for the segregation of these funds from other endowment funds.

Endowment pledges or subscriptions should not be recorded in the general books of account. As they are given they should be recorded in a subsidiary loose-leaf or card ledger but no entries should be made in the general ledger. As cash is received in payment of these pledges and subscriptions it should be entered in detail in a subsidiary cashbook and the individual accounts in the sub-ledger should be credited. The cash entered in the subsidiary cashbook should be transferred in daily totals to the general cashbook and the daily cash receipts should be deposited in the endowment-fund bank account. The entry from the general cashbook will be a debit to cash and a credit to endowment fund (restricted or unrestricted). Securities given in payment of pledges and subscriptions should be recorded in a subsidiary journal and similarly posted and transferred to the general books. The value assigned to securities given should be the market value on the date of receipt. Whether such securities shall be sold or exchanged for other securities depends upon their nature and whether or not they accord with the investment policy of the institution.

Endowment funds are invested to provide a permanent, regular income and not to realize profit on turn-over. The accountant cannot dictate as to the kind of securities that should be held by a college. He can, however, recommend that changes be made in the list and it may be within his province to do so even though the securities which he thinks should be disposed of will not realize their book value. Recommendations of this sort will require tact and diplomacy and the accountant must be very sure of his ground before making them.

It is obvious that most securities will be purchased at a price either below or above par. Such securities should be entered on the books at cost. They may be amortized by annual debits or credits but this is rarely done because of the amount of labor involved. The method adopted in many institutions is to credit the amount received from the sale or at the maturity of a security in excess of its book value to an endowment-fund account called, say, "endowment insurance reserve." Similarly, if the amount received is less than the book value, the difference is charged to this account. In addition, a small amount may be set aside from current income and credited to this account until a sufficient amount has been reserved to cover normal losses.

The method of determining the amount of income applicable to restricted and unrestricted endowment funds may be determined in one of two ways. Each fund may be invested separately and the income from each investment properly applied, or the funds may be invested as a whole and the entire income applied to each fund in the ratio that it bears to the total of all funds. Both methods are used and each has its advantages. Under the first method each fund receives the actual amount of income which its investments produce. It is much more difficult to keep separate records for each fund, however, than it is to combine all funds and pro rate the income. For this reason the latter method is better. There are various other advantages which might be enumerated for each method which I do not think it necessary to submit in this article.

As income is received from endowment investments it should be deposited in the operating-fund bank account and credited in the operating-fund ledger to "income from endowment," separate income accounts being maintained for interest on bonds, interest on mortgages, interest on bank balances, other interest, and dividends on stocks. The disbursement of such income should be charged to the proper accounts under the operating section.

A report on the condition of securities should be submitted to the trustees by the financial officers of the college at least once in three months. This report should show in parallel columns the name of the security, the cost, present market value, yield on cost, and perhaps other information, such as the market value a year ago.

It is hardly necessary to state that endowment funds should not be lent to trustees, officers or employees of a college, nor to any business which they either manage or control.

Endowment funds should never be hypothecated for loans for the current purposes of a college. Such a condition would call for serious criticism by an accountant auditing the books of an educational institution for it is obvious that if, for any reason, sufficient funds are not raised to liquidate the loans for which endowment securities are pledged and such loans are called, the trustees are just as responsible as though they had in the first place used endowment to pay current debts. Likewise endowment cash temporarily uninvested should never be used to pay current expenses no matter how pressing the need may be or how soon it is expected that current funds will be received from which such borrowings can be repaid. To avoid the unintentional use of endowment cash for current purposes, a separate bank account should be provided under the endowment section in which should be deposited all cash awaiting investment.

Securities should be kept in a safety deposit vault and access to them should not be had by fewer than two persons together. These persons should be designated by the board of trustees. In addition a public accountant should be employed, who will make an annual audit of the books and examination of the securities. His unqualified certificate should be appended to the treasurer's annual report, and this report should be printed and distributed among the trustees, alumni and other friends of the college. Some institutions appoint a bank or trust company to act as custodian of securities. In such cases the financial responsibility of the custodian should be carefully investigated.

Plant

Physical plant consists of land, buildings, furniture and equipment, books, scientific apparatus, machinery and tools. Plant assets should be carried on the books at cost and the total assets should exactly equal the funds used in acquiring them. A short time ago the writer was asked to revise the accounting system of a university. The preliminary examination of the books disclosed the fact that while book accounts were carried for endowment and operating-fund accounts, no records had ever been maintained for plant accounts. This university had been in existence for almost eighty years and, because of lack of information with respect to original costs, additions and disposals, it was impossible to determine cost values to use as a basis for setting up ledger accounts. At a conference with the officers it was agreed that an appraisal of land and buildings would be made and an inventory of other assets taken, at replacement values. The totals thus obtained will be used for opening ledger accounts and future additions will be charged at cost.

In the case above cited the present book value will also be the insurable value. The majority of educational institutions, however, have maintained ledger accounts to which plant assets have been charged at cost. In the course of time these assets often appreciate with the result that replacement value may be far in excess of book value. Inventories at replacement value should be made, say, once in every three years, and the amount of insurance carried should be based on these inventory totals. The inventory amounts should, however, be carried in a memorandum record only and no adjustments should be made to the ledger accounts to make them coincide with inventory values.

When funds are given for the purchase of plant assets the entry is made directly in the plant section, the debit being to cash or securities and the credit to the proper plant-fund account. A separate plant bank account should be opened for this purpose. As expenditures are made the fixed-asset accounts should be charged and cash credited. Each year, however, certain expenditures must be made for equipment, etc., for which no specific funds have been provided by gift. These expenditures are usually provided for in the annual operating budget and the cost thereof is closed into operating profit-and-loss. In order that the plant accounts may reflect the true value of plant assets a journal entry is made in the plant section at the end of each fiscal year debiting the proper asset accounts and crediting plant-fund account with the total cost of new equipment, etc., purchased through the operating section and charged to operating profit-and-loss. This is one way in which college and university accounting differs from accounting for a profit-making concern, for the cost of such new equipment is in effect both written off and capitalized. It will be understood that the described entry for the plant accounts takes in only new additions. The cost of ordinary replacements is closed directly into operating profit-and-loss and no entry is made under the plant section.

The question of determining the value to be added to plant assets for books purchased for the college library has caused a great deal of discussion. Books may, of course, greatly appreciate in value but, on the other hand, they may become entirely worthless in a comparatively short space of time. The cost of new books is usually included in the operating budget and charged off to operating profit-and-loss. At the close of each fiscal year a journal entry should be made in the plant section for the value of books thus purchased. This entry is similar to the one described above for equipment. The best opinion available seems to be that for the purpose of this entry a value of $1.00 per volume should be placed on books purchased.

Businesses operated for a profit must provide for the replacement of fixed assets by setting aside an annual amount from income. These amounts are credited to reserve-for-depreciation accounts. Since colleges and universities are not operated for profit the same considerations with respect to providing for replacements do not apply. Mr. Arnett has very clearly outlined the situation with respect to educational institutions in the following paragraph.

> Endowed colleges in the first instance have obtained funds for plant and equipment by gifts, and as a general rule their trustees consider it the better policy to rely upon the same source for any buildings and equipment which may be needed in the future. They are, moreover, so beset with difficulty in procuring income sufficient for the present needs that they are not interested in raising funds for needs of the distant future. As the present and past generations have provided the existing buildings, it is neither unwise nor unfair to expect future generations to do as well.

Most colleges must of necessity enter into activities which cannot be classed as strictly educational. Under these activities come the operation of dining-halls, dormitories, book stores, etc. Since these are operated on the theory that they shall be at least self-supporting it is only proper that the cost of operation shall include depreciation. Such depreciation as well as all other charges and credits for these activities should be included under the operating section. The annual amount included for depreciation should be taken out of the operating bank account and deposited in the plant bank account. The entry in the operating section will be a charge to depreciation and a credit to cash, and in the plant section a charge to cash and a credit to reserve for depreciation (separate reserve accounts being maintained for the replacement of each asset concerned).

When plant assets are sold or destroyed an entry should be made in the plant section to give effect thereto, the entry being a charge to cash and/or the fund account and a credit to the proper plant-asset account.

Operating

All the transactions not included under endowment and plant come under the head "operating." The combined result of operations under this section represents either a surplus or deficit on current operations for the year. The chart of accounts to be used for recording these transactions may be as elaborate or as simple as desired. This will depend principally upon the size of the institution and the amount which it can properly afford to spend for accounting.

Receipts are derived from two main sources: endowment and student fees. Receipts from the former source have been discussed under the endowment section and do not require further explanation. Student fees include fees for tuition, fees for laboratory materials and supplies, fees for breakage, damage and loss, and incidental fees such as those for registration, diplomas, use of library facilities, etc. It is generally understood that a student should not be required to pay as tuition the amount it costs the college to provide his education since this would prevent students with small resources from obtaining an education. Instead, the tuition charge is reduced to a point where the amount received from this and all other sources is just sufficient to meet expenses. It is now a rather generally accepted theory that, since a student receives his education at less than cost, he should feel obligated to his alma mater and should liquidate this obligation by making such gifts as may be possible during the remainder of his life and by including such provisions in his will as his estate warrants.

While student fees form only a portion of the income of a college, it is important that they be paid promptly, since the margin between receipts and disbursements is always a slight one. On the other hand it would work a hardship on a poor student to exclude him because he could not pay his tuition in advance. At the university of Rochester, the treasurer addresses the freshman class after registration and, by means of charts, points out how small a portion of the expenses of the university is met from student fees and how important it is, therefore, that these fees be paid promptly. This plan produces good results and makes the student realize at the very beginning of his university career that he receives much more than he pays. Generally speaking, students should be required to pay all fees within the first few days of the term. When exceptions are allowed notes should be required. These notes should be considered as definite obligations and rigorous steps taken to collect them. A card should be maintained for each student. The charges against his account for fees, etc., should be recorded thereon, as well as credits for cash and allowances. Income from fees, however, should only be recorded on the general books as cash is received. This follows the generally accepted plan of keeping college and university accounts on a receipts-and-disbursements basis. Likewise notes received from students should be carried in memorandum records only and not credited on the general books until redeemed by cash payments.

Mr. Arnett divides operating disbursements into the following classes: (1) those incurred in the operation of a college as such; (2) those incurred in the operation of auxiliary departments;

(3) those incurred in the operation of dormitories, dining-halls, book stores, etc., (4) those incurred in raising funds. For the first class of expenditures an annual budget should be made. The subject of a budget is important but is too lengthy to be discussed in this article. However, in my opinion a budget is of the utmost importance, for without a budget it is almost impossible to keep operating expenses within available income. Furthermore, it is not wise to budget a deficit, that is, an excess of estimated expenditures over estimated income. It is easy to assume that a deficit will be made up somehow, but it sometimes happens that small annual deficits are not offset, with the result that, almost before it is realized, a fairly large operating deficit has been created. People who have had experience know how difficult it is to raise money for past purposes.

Chart of Accounts

A chart of accounts for a small college follows:

Endowment:

- Assets—
  - General endowment funds—
    - Cash in bank
    - Bonds
    - Stocks
    - Mortgages
  - Annuity funds—
    - Cash
    - Bonds
    - Stocks
    - Mortgages
    - Excess of annuity disbursements over income
- Funds—
  - Unrestricted endowment funds (with sub-ledger accounts if desired)
  - Restricted endowment funds (with a sub-ledger account for each)
  - Endowment-insurance reserve
  - Annuity funds

Plant:

- Assets—
  - Grounds (with such sub-ledger accounts as may be necessary)
  - Buildings (with a sub-ledger account for each building)
  - Books (with such sub-ledger accounts as may be necessary)
  - Scientific equipment (with sub-ledger accounts to show equipment in each building or department)
  - Furniture (with sub-ledger accounts for each building or department)
  - Cash in bank
  - Investments of building funds
    - Bonds
    - Stocks
    - Mortgages
- Funds—
  - Plant funds
  - Reserves for depreciation (with appropriate sub-ledger accounts)

Operating:

- Assets—
  - Cash on hand
  - Cash in banks—general purposes
  - Cash in banks—special purposes
  - Notes receivable

Accounts receivable
  Expense inventories (with appropriate sub-ledger accounts)
  Unexpired insurance
Funds and liabilities—
  Notes payable
  Accounts payable
  Room deposits
  Key deposits
  Deferred credits
  Operating fund
  Operating surplus
  Special funds (with sub-ledger accounts for each)
Income—
  College of arts and science
    From fees
    Registration
    Tuition
    Diplomas
    Laboratory fees
    Fines and miscellaneous
  From contributions—
    For current expenses
    For books
    For scholarships
    For prizes
    For student aid
  From libraries—
    Fines and lost books
    Old books and paper sales
  From endowment funds—
    Unrestricted
      Interest on bonds
      Interest on mortgages
      Interest on bank balances
      Other interest
      Dividends on stocks
    Restricted
      Interest on bonds
      Interest on mortgages
      Interest on bank balances
      Other interest
      Dividends on stocks
    Miscellaneous
      Rentals from dormitories, dining-hall, book store, etc.
      Sundry receipts
  Dormitories—
    Rent of rooms
  Dining-hall—
    Receipts from meals served
  Bookstore—
    Sales
Disbursements—
  College of arts and science
    Administration and general
      Administrative offices—salaries
      Administrative offices—expenses
      Bursar's office—salaries
      Bursar's office—expenses
      General office—salaries
      General office—expenses
      Endowment-insurance reserve
      Diplomas
      Interest
      Programmes, circulars, catalogues, etc.
      Publicity
      Public functions
      Stationery and postage
      Telephone and telegraph
      Miscellaneous
    Maintenance of buildings and grounds
      Salaries and wages
      Power plant (fuel and supplies)
      Repairs and alterations
      Insurance
      Assessments
      Gas
      Electricity
      Water
      Supplies and miscellaneous
    Library
      Salaries
      Student service
      Books
      Binding
      Miscellaneous
    Instruction
      Dean's office—salaries and expenses

Instructional salaries
Laboratory equipment and supplies
Miscellaneous
Students' aid
Scholarships
Prizes
Dormitories—
Salaries and wages
Supplies
Repairs
Rent
Depreciation
Heat
Light
Water
Insurance
Telephone and telegraph
Miscellaneous
Dining-hall—
Salaries and wages
Food and supplies
Laundry
Repairs
Rent
Depreciation
Heat
Light
Water
Insurance
Telephone and telegraph
Miscellaneous
Bookstore—
Salaries and wages
Books and magazines
Supplies
Freight and cartage
Repairs
Rent
Depreciation
Postage
Heat
Light
Insurance
Telephone and telegraph
Miscellaneous

General

The treasurer of the university of Rochester has kindly given me permission to use the last combined balance-sheet of the university. The self-balancing principle as applied to each of the three main classes of financial transactions is clearly brought out in this statement.

The University of Rochester

Combined Balance-Sheet as at June 30, 1924

Assets

Endowment assets:		
Investments	$12,986,838.69	
Cash	35,908.05	
Short-term notes receivable	490,013.87	
Receivables	4,246.74	
Deferred charges	12.00	
		$13,427,019.35
Plant assets:		
Buildings and grounds	$8,684,346.27	
Building fund cash and securities unexpended	1,768,824.49	
Advances receivable—funds	401.07	
Books, furniture and equipment	392,071.63	
		10,845,643.46

Current assets:		
Investments	$1,510,736.86	
Receivables	358,561.22	
Cash on hand	86,687.81	
President's car	1,086.85	
Deferred charges	21,953.57	
		$ 1,979,026.31
		$26,251,689.12

LIABILITIES

Endowment funds:		
Endowment funds	$13,345,532.03	
Endowment-insurance reserve	81,068.25	
Advances payable—funds	401.07	
		$13,427,019.35
Plant funds:		
Building and equipment funds	$10,821,580.96	
Short-term notes payable	24,062.50	
		10,845,643.46
Current funds:		
Current funds	$875,292.66	
Short-term notes payable	465,953.93	
Accounts payable	12.50	
Mortgages payable	7,000.00	
Special building fund reserve	699,468.74	
	$2,047,727.83	
Minus accumulated deficit, college of arts and science	68,701.52	
		1,979,026.31
		$26,251,689.12