Developing a Weighted Collection Development Allocation Formula

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Developing a Weighted Collection Development Allocation Formula

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Abstract

In this session the presenters demonstrated and discussed how to create a spreadsheet-based library collection development allocation formula to help acquisitions personnel better manage their library's limited collection development resources. The presenters demonstrated and led participants through Arkansas State University's process of creating an Excel-based formula that utilizes criteria relevant to their specific library and institution. Key to the success of this formula is the use of a separate weight applied to each factor used in the formula. Factors selected include the number of students graduating from each degree program, courses offered by each academic department, departmental credit hour production, the number of faculty in each department, and the average costs of books and journals in a discipline. By carefully assigning weights to each factor, the output of the formula results in a more equitable allocation of funds to each subject area.

Introduction

After introducing themselves and welcoming attendees, Bailey and Creibaum briefly discussed the history, development, and use of an allocation formula at the main campus of Arkansas State University. This was followed by a short discussion of how the basic formula has been modified over time at Arkansas State and examples of ways the formula could be individualized for use in a variety of library settings and types.

Discussion included the methods by which the formula can be modified as conditions warrant and campus circumstances change.

Developing a Weighted Collection Development Allocation Formula

Background

In 1997 Arkansas State University's Dean B. Ellis Library had no equitable means of providing the university's various departments with financial allocations of collection development funds to the for selection of library materials. Departmental allocations had become unbalanced to the point that one department accounted for almost 20% of all collection development expenditures. Funds had not been reallocated or redistributed in many years, and as a result the library had no means to purchase materials in support of new programs.

Arkansas State librarians searched professional literature to discover methods of making allocations, including the use of a formula, and ultimately decided to develop a formula for their institution that was based on one used by Colorado State University and described in SPEC Kit #36 (September 1977).

Gathering Data

Before selecting formula factors, it was necessary to gather the relevant data needed to make informed decisions. A brainstorming session regarding possible formula factors was conducted and several potential factors received serious consideration, including:

- Accreditation requirements.
- Average cost of materials by academic discipline.
- Circulation of materials by subject area.
- Consortial arrangements.
- Credit hours per discipline.
- Degree levels.
- External funding received by each department.
- Faculty publications.
- Graduation data.

- Interlibrary loan requests.
- Number of faculty.
- Number of majors.
- Number of students in each major.
- Prices of books and journals.

Bailey and Creibaum discussed how to evaluate and refine the list of possibilities until the final choices for formula factors have been made. Duplicates, such as cost of materials and prices of books and journals, were consolidated, and nonviable suggestions, such as identifying the users of books and journals by major, were eliminated. It was noted that some potential factors may be viable at one institution but not at another due to the varying methods of collecting data, and that some suggestions might not be appropriate to the formula at all. Additionally, when determining what data is available, participants were reminded that some data may be obtainable at some institutions but not at others. When building a formula, a library should gather samples of available data and eliminate from consideration all factors for which complete data cannot be obtained.

Factor Selection

Selection of formula factors should be completed only after each possibility is examined for completeness of data and relevance to the institution's collection development goals. It is at this point that the endorsement of advisory boards, faculty committees, or administrative personnel should be sought according to the structure and culture of each institution. Documentation should be retained for all factors considered for inclusion in the formula, whether they were selected or not, including the specific reasons for those not included in the allocation formula. There is a strong possibility that at least some of this information will be needed when rerunning and/or making changes to the formula in the future.

Weights

Weighting is the assigning of values to indicate the importance or impact of each factor in the formula relative to the other formula factors.

When building an allocation formula there are various considerations involved in determining what weight to give to each formula factor. These considerations are particular to each individual institution and may include additional input from a library committee, faculty senate, or other constituency. Factors may be subdivided before assigning weights. An example of this would be subdividing undergraduate and graduate semester credit hour production. This would allow assigning a different weighting factor to each, with a higher weight being assigned to graduate credit hour production due to the degree of intensive research involved at that level. Doing test formula runs throughout the process is highly recommended, as minor changes in weights or the data collected for factors can sometimes yield unexpected (and unbalanced) results! Be prepared to make changes.

Options

Formulas may be run to allocate financial resources for books, journals, print materials, online resources, or any other budgets your library may have, either separately or in combination. Libraries may choose to allocate all available funding or retain some for in-house use in accordance with local campus culture and practices. There may be reasons to make adjustments to individual allocation amounts after running the formula, including not wanting to reduce any department's existing allocation, choosing to reduce/not increase an allocation amount because a department had a history of not spending a satisfactory portion of previous allocations, the presence of endowed funds for some disciplines, or adding an amount to help cover start-up costs for new programs. Additionally there might be special entities, accreditation demands, or campus political issues to consider.

Running the Formula

Attendees were then led through a discussion of a how the Excel-based spreadsheet formula works, including a quick look at a working version of an allocation formula. During this discussion, Bailey and Creibaum explained various aspects of running the formula, mentioning how the

spreadsheet looks and the actual math contained within the spreadsheet itself, and the relationship of the weighting to the final output.

Comments

If a decision is made to develop and use an allocation formula, it is vitally important to thoroughly document the factors you used and how the formula data were gathered. Comparable information will be needed in future runs of the formula, whether a library is rerunning an unchanged formula with updated information or has decided to modify a previous formula to

incorporate different factors. In recent years the formula used at Arkansas State University has been revised to include additional factors, such as external research funding received, as the campus and campus culture have changed, and other libraries' formulas will almost certainly need to be modified in the future because of changes in the library or in the institution's makeup or needs.

PowerPoint slides for the presentation and a downloadable interactive basic version of the formula spreadsheet may be accessed at: www.astate.edu/a/library/charleston.

References

Association of Research Libraries. (1977). *The allocation of materials funds in academic libraries*, SPEC Kit 36. Washington, DC: Association of Research Libraries.