

*Full Length Research Paper*

## Weeding: A strategy for effective management of library stock at University of Ghana Medical School, Korle-bu.

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Received 16 March, 2015; Accepted 29 June, 2015

This paper titled 'Weeding: A strategy for effective management of library stock at University of Ghana Medical School, Korle-bu' covers the University of Ghana Medical School (UGMS) library and the population for the study consisted of all professional and para-professional staff of the UGMS Library. A survey design making use of structured interviews were used to elicit data. The study showed that there was no weeding policy in the UGMS Library, that lack of funds, fear of creating space without replacement and lack of time among others accounted for non-weeding in the library. Also, weeded items were kept in a special store room, donated to other schools or sold at moderate prices to students. It was recommended that a collection development policy be formulated by the UGMS library which will include all aspects of the weeding process.

**Key words:** Weeding, academic libraries. medical school libraries, collection building, collection management.

### INTRODUCTION

The changing nature of the academic library has seen more users relying more and more on electronic resources. In fact the increasing availability of certain types of information in non-print form, the continuing rise in the price of books and especially, periodicals, and the general pressure on library budgets raise complex issues of stock collection and management. To worsen matters stock and space have become key issues for many libraries, such that pressure on especially space is reaching critical levels. Managing space in an academic library is an issue that needs to be critically looked at in many universities as student numbers and stock greatly increase.

It has therefore become essential that older, less used

material is moved to allow space for the newer material on the open shelves. All types of libraries must at some point remove older, irrelevant, or infrequently used materials to make space for new acquisitions. This process is sometimes referred to as weeding the collection.

According to Mix (2010), increasingly, libraries face challenges related to physical space needs, not only within the main library, but also in remote or auxiliary locations for housing library materials. In many cases, there is little or no financial support for expanding buildings. Often, the only choice involved in reducing collections is weeding

But Dubicki (2008) indicates that in spite of the

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numerous benefits that could be realized by weeding a library collection, there are a number of reasons why librarians avoid weeding as a part of collection management: desire to maintain the size of the collection, lack of time, lack of experience, and also sometimes, the belief that a book may be needed in the future.

It is however essential that the stock is always in good shape. To keep a stock in good condition, thoroughly representative, and up-to-date requires deliberate planning. A system must be devised whereby worn and obsolete volumes are weeded out systematically and those which can be restored given the right treatment. The balance of stock and the need for additional books in some subjects can only be revealed by systematic revision of the stock, subject by subject, and may require the appointment of an officer who is given this task as his particular responsibility.

With space at a premium in most libraries, especially those located in a health service context, the health librarian frequently encounters pressures to withdraw outdated items from their library stock. It is not exaggerating to say that outdated health information can kill, although fortunately the frequency with which such instances are reported is low (Booth, 2009). Thus, Hightower and Gantt (2012) emphasise that libraries supporting health sciences programs must periodically weed collections to remove outdated materials.

A preliminary investigation by the researchers revealed that the University of Ghana Medical School Library is presently faced with congestion in the area of shelf space. The UGMS Library must therefore weed its collections if it is to adequately meet its mandate of effectively catering for the information needs of Ghana's premier medical school.

### **Establishment of the University of Ghana Medical School Library (UGMS)**

The first medical school in Ghana was established in 1964 at Korle-Bu. The Library of the School was opened in October 1966 with an initial stock of seven hundred and nine (709) volumes restricted to textbooks, monographs and reference materials required for teaching purposes. This restriction of the scope was deliberate since there were two other libraries that staff and students had access to. These libraries were the Medical Research Council Library and the National Institute of Health and Medical Research Library. A merger of all these libraries took place in 1967 and this has now become the University of Ghana Medical School Library ([www.ug.edu.gh](http://www.ug.edu.gh)).

The mission of the UGMS is to produce highly qualified and competent health professionals and medical scientists to provide promotive, preventive and curative services to meet the health needs of the nation and the

global community through world class excellence in teaching, research and dissemination of knowledge ([www.ug.edu.gh](http://www.ug.edu.gh)). To ensure that this mission becomes a reality, UGMS Library gathers, organizes and maintains biomedical information for the use of researchers, educators, physicians, other health professionals, students and the public as a whole ([www.ug.edu.gh](http://www.ug.edu.gh)).

### **Statement of the problem**

A number of books and journals on the shelves of the UGMS Library are in low demand or are hardly requested for by any user. Additionally, out-dated books and other books in very poor condition which have rendered them unusable are also on the shelves of the Library. Meanwhile, there are new editions and titles of books and journals, which are currently being kept at the Cataloguing Department because of inadequate shelf space. The Library therefore has a lot of materials which actually need to be weeded to make room for newer books and journals. Could weeding the outdated and low demanded books and journals lead to a decongestion and is this needed to improve the quality and management of the collection?

### **Research Questions**

1. Is there a weeding policy for the library collection?
2. What criteria are used in weeding the Medical School Library collection?
3. What are the challenges in weeding library materials?
4. What happens to the weeded materials?
5. What are the measures to put in place to overcome the challenges?

### **General objective**

The purpose of the study was to find out how weeding the collection could improve the Library stock at the University of Ghana Medical School library and make recommendations for effective collection management

### **Specific objectives**

The specific objectives of the study are to:

1. Find out if the Medical School Library has a weeding policy.
2. Examine the criteria taken into consideration by library professionals for weeding the collection.
3. Find out the challenges the library faces in weeding its outdated stock.

4. Determine what happens to the weeded materials.
5. Highlight measures that can be taken to control and if possible eliminate the challenges librarians face in weeding out their collections.

### Significance of the study

The study would be of significance to the University of Ghana Medical School Library, the academic libraries in Ghana and academia and policy makers in general. It will provide an in-depth knowledge to the authorities and decision makers on the importance of weeding. This study will also prompt the authorities of institutions to establish regular or routine weeding of the library stock to give way to new collections for easy retrieval. The study will also serve as a tool for all librarians in the country especially all university libraries and special libraries on the relevance of weeding in collection building.

## METHODOLOGY

### Research design

The research design used for this study was a survey. Surveys allow a small proportion of the sample to be selected and findings generalized to the large group. This makes the research less expensive but still efficient. The researchers employed the cross-sectional survey method. This method may use questionnaires or structured interviews for data collection with the view to generalizing from a sample to a population (Creswell, 2009).

The proposed research questions necessitate that the research design be qualitative in approach. Sarantakos (2005) views qualitative research as having the following characteristics:

1. It studies a small number of participants.
2. It attempts to approach reality without preconceived ideas.

This qualitative research was therefore deemed as appropriate in this study as it would afford the researchers an opportunity to undertake an in-depth or exhaustive description and analysis of the study area.

### Population

The target population for this study was the professional and para-professional staff of the University of Ghana Medical School Library. The Library has a total staff population of twelve (12). These include three (3) professional staff and three (3) para-professional staff, five (5) Library Assistants and one (1) Administrative Assistant.

### Sample size

The sample for this study consisted of all the six (6) professionals and para-professionals of the University of Ghana Medical School Library. Patton (2002) notes that there are no rules for sample size in qualitative studies. It is guided by the goal of the study, what the researcher wants to achieve, whether sufficient rich data is needed and the availability of time and resources.

### Sampling technique

Sampling is a very significant component of all research because a sample must be representative of the population. A sample that is not representative of the population notwithstanding its size is insufficient for the purpose of testing (Wimmer and Dominick, 2011)

Liamputtong and Ezzy (2005) indicate that purposive sampling permits the researcher to intentionally select the element rich cases relevant for in-depth study to examine meanings and interpretations.

This is affirmed by Neuman (2007) who states that purposive sampling is used in situations in which an expert uses judgment in selecting cases with a specific purpose in mind. This method was deemed appropriate because it enabled the researchers to select respondents who matter for the study.

### Data collection procedure and instruments

The researchers collected primary data from the library staff through interviews. Also, a review of secondary data was made from textbooks, journals, articles, e-resources etc.

There are several methods employed in data collection which includes questionnaire, interview and observation. The method that was utilized for the purpose of the study was a structured interview and observation.

Structured interviews are based on strict procedure and a highly structured interview guide which the researchers followed. The systematic manner in which questions were presented to respondents ensured control and allowed generalizations to be made from the information

### Data analysis

Data analysis methods entail a comprehensive study of collected data, dividing it into patterns that can be managed and knowing the trend in order to respond to research questions (Babbie, 2010). In any qualitative research the researcher needs to ensure appropriate documentation of records which is the life blood for the study.

Being a qualitative study, data were analysed using qualitative methods of description and thematic text analysis (Cresswell, 2009).

## RESULTS AND DISCUSSION

Good library management principles begin with planning and an analysis of the needs of the community being served by the library. No matter the processes of planning, knowing what the library is and where you want it to go is the first step in weeding. Even if the librarian does not have a formal planning process, it is likely that he/she has some idea of what the community wants from the library and knows what users need to do to accomplish that mission. Librarians need to grow their collections and that means they (librarians) need to make decisions about the budget, they need to look for additional sources of funds (such as grants and gifts), and select materials to add to the collection. There is the need for the librarian to always keep in mind what is already in the collection and, perhaps of equal or great importance, what needs to be culled from the collection

(Hoffmann and Wood, 2005).

A good library manager has the responsibility of maintaining a collection that is free from outdated, obsolete, shabby, or no longer useful items. It could be compared to Newton's Third Law of Motion: For every action, there is an equal and opposite reaction. For every item that is being put on the library shelves, the librarians should at least be considering whether there are items that need to be removed.

Larson (2008) indicates that many librarians just love books and information, hence their inability to discard, deselect or weed their collections.

However, if you look at the place of the collection within the library's mission and how a poorly maintained collection negatively impacts the ability to meet that mission, it should become clear that weeding is an important part of the process (Larson, 2008). However, Ranganathan's Five Laws of Library Science should be kept in mind when undertaking any weeding exercise.

### Policy for weeding

The Albert B. Alkek Library of the Texas State University in its Collection Development Policy document (2006) state that to achieve a well-balanced, pertinent and usable library collection that satisfies the current and future needs of the users, it is necessary to consistently and systematically evaluate and assess the library's collection. A fundamental part of maintaining such a collection requires that some materials be taken out of that collection based on the criteria specified in the Collection Development Policy.

Based on the objectives of the study, the researchers wanted to know if there was any policy on weeding in the library. To this, all the respondents interviewed indicated that no approved policy document on weeding exists in the library. Observation of the books/journals on shelves by the researchers confirmed the responses received because some of the books were very old with torn pages which from the researchers' point of view needed to be weeded out to give way to new ones. This supports Engeldinger's (1986) study which also found that only 77 of 370 academic libraries (20.8%) in the USA had a written policy about weeding reference materials. However, it has been stated that for weeding or deselection to be effective there is the need for a policy guiding it. This weeding policy should be captured as a part of the collection development policy

### Reasons for weeding and criteria used

Diverse reasons were adduced by respondents for weeding. The primary reasons adduced however for weeding the print collections was the need to ensure

accuracy of information, followed by the physical condition of the item, space constraints, and low circulation. Other reasons adduced included duplicate copies, the availability of the item in an alternate format, and the desire to eliminate unacceptable stereotypes and sexist terminology.

Less obvious, though inherently logical reasons for weeding were also offered. One such reason touched upon by the respondents, is the desire to present the library as a vital, vibrant, and up-to-date resource. In the words of one survey participant, weeding "gets rid of that stereotype that the library is a dusty archive." Another commented that weeding "enhances the library's reputation" for currency and overall significance in the university community. A third respondent noted that "our mandate, as a medium sized university library, is not to be that of an archive, we can only stock items of continuing and current interest to our patrons."

In addition, the deputy librarian indicated that weeding increases knowledge of the collection as a whole. Weeding, one librarian wrote, is the "best way to go book by book and be reminded of what is in my collection. I get to see first-hand not only what materials are damaged, need updating, or need to be replaced but I can also see what people are reading the most and where their real interests are." Another librarian explained that weeding helps "one to become familiar with authors and their works." It also allows librarians "to gather information on collection strengths and weaknesses." Finally, it functions as "an integral part of library work in meeting assessed community needs." Weeding, in other words, not only discards items, but also awakens librarians to the hidden and forgotten resources that their shelves contain. Systematic weeding is considered by many to be "a public service" that is the very antithesis of "irresponsible disposal of library property" because it often increases use and leads to a more attractive collection (McGowan, 2011).

Among the interviewees, one librarian cited the need to ensure accuracy of information as the single most important reason for weeding. The librarian stated that circulation data must be the main criterion to decide whether an item should be weeded. Many of the other interviewees however thought that "there is no most important factor", and that considerations such as timeliness of information, circulation statistics, condition and attractiveness of the book should all play a role in making a decision on weeding.

Another librarian indicated that weeding should not be an isolated activity, but one that is performed as a part of the book selection cycle. As one examines circulation statistics about low-circulating titles, it is necessary to "consider whether it is the only book on that particular subject that we have, whether it could or should be reordered, and whether or not there is a similar work which we should consider ordering as a replacement. It

makes sense to research and record necessary buying information while weeding in order to preclude future gaps in the integrity of the collection.”

Clearly, all the subjects interviewed did not consider weeding as a negative act that decreases the quantity and quality of a collection, but as a positive element that ensures a dynamic, responsive, and living collection. As demonstrated from the respondents, many librarians firmly believe that innovative use of circulation data aids in this replenishment process (Handis, 2007; Snyder, 2014).

### **Factors discouraging weeding**

Librarians recognize that there are many virtues to weeding, however a number of factors coalesce to inhibit weeding. Paramount among these are lack of funds and the fear of creating space without replacement. The constant pressures of other duties, coupled with the fact that weeding is a time-intensive activity, has caused many librarians to complain that there never seems to be enough time to engage in as thorough a weeding as they would like.

This was confirmed by one respondent who stated that that they were concerned about the lack of money to replace weeded books with other respondents also indicating they received numerous unpleasant complaints from their users about weeded material. Perhaps the most intriguing responses came from other respondents who stated that they are reluctant to weed because of funds or formulae that tied an increase in collection development budgets to book titles held per capita. This is confirmed by Slote (2008) who identified factors that discourage weeding as emphasis on numbers, professional work pressures, public displeasure, sacredness of collection, conflicting criteria and others.

### **Fate of weeded materials**

Reflecting on the fourth objective of this study and Ranganathan's Five Laws, the researchers sought to find out what happens to the weeded materials. It was observed from responses given that weeded materials were normally kept in a special store room. Also, some of the weeded materials are sometimes donated to other schools and others sold to students at a very moderate price. This is confirmed by McGowan (2011) who recounts how librarians at a small community college library discovered an unusual collection as they undertook a weeding exercise in their library. The librarians determined that although the collection was not useful to them, it would be appropriate in a different institution with a graduate student population doing original research. A description of the collection was created and offered on a

local consortium listserv. The whole collection was requested for within an hour by another academic library with a graduate school.

### **Frequency of weeding**

All the staff interviewed, both professional and para-professional indicated that weeding is often a herculean task and as such was not to be done regularly but only as and when needed. A common sentiment thus expressed was “we have never done” weeding. This supports Dubicki's (2008) assertion that librarians often avoid weeding as a part of collection management.

Respondents also indicated that in order to have a “clean” and current library collection, “each reference librarian must be assigned a range of numbers or a section of the collection that he/she will be responsible for developing and weeding on a continuous basis.” Others also explained that “the condition of each returned book must be checked on a daily basis and set aside for weeding if the subject area and use is not frequent” Finally, it was mentioned that the establishment of biannual Friends of the Library book sales, could be a strong impetus for regular weeding.

Two other librarians reported that they had quotas for weeding, whereby a certain percentage of the collection must be evaluated on an annual basis. Other librarians indicated that they undertake periodic trips through the stacks on the lookout for overcrowded shelves or trust patrons to alert them of overcrowded areas. Once spotted and evaluated, these shelves then undergo rigorous weeding.

Other interviewees were of the view that, there is the need for staff to be on the alert for new editions and outdated materials so that weeding can be carried out without time wasting. According to Boon (2009), there must be someone within the library who should ultimately decide on what should be weeded and what should not be weeded from the collection. Ideally, the person who determines what will be weeded should be the same person responsible for collection development in a particular section of the library. Weeding, it must be stated, is seriously an important component of library life although it needs not to be done often (Boon, 2009).

### **The process of weeding and its aftermath**

The study observed that although no written policy exists to help in weeding, the weeding is normally carried out by library assistants who are supervised by a professional librarian to make sure weeded materials are indeed not needed in the library. This is supported by a study on weeding conducted by Jacob (2001) who confirmed that in many libraries, weeding often resembles a military

operation. Assistants “pull” the items or tag them with “weeding action slips.” The items are then reviewed by the Assistant’s immediate supervisor, who then sends them to cataloguers so that the items may be deleted from the library catalogue or noted as being held in storage. Cataloguers may flag an item as being worthy of retention, and then that item is returned to the appropriate departmental supervisors.

### **Responsibility for weeding**

According to Larson (2008), one frequently asked question is, should weeding be done only by the head librarian, or may it properly be delegated to other staff? A good rule of thumb is if staff is not taking part in selection of materials, then they should not make a final weeding decision. The primary responsibility in any library must be the purview of staff members who can consider the collection and the library needs from both a broad and long-range perspective. It is very important in the weeding process to assign the weeding task to qualified staff to handle. Majority of respondents indicated that weeding is normally done by junior staff. This is in disagreement with Boon’s (2009) assertion that in every instance, someone within the library should have the final say on what will be discarded from the collection. Ideally, the person who determines what will be weeded should be the same person responsible for collection development in a given area of reference.

### **Measures to control weeding**

Guidelines are not intended to act as a substitute for professional judgment. For example, a sixty-year-old National Book Award Prize winner that has not circulated in more than ten years is simply taking up valuable space and should be discarded even though the library policy may encourage the retention of books that have won awards (Larson, 2008). Results of this study indicated that no clear cut measures were in place to control weeding in the library as a result of unavailability of a document policy in that regard. According to Larson (2008) material selection and deselection are similar activities. First, they are both necessary parts in an effective collection development program; and second, both require the same type of decision-making criteria. The same factors that lead to the decision to add an item can also lead to a decision to remove that item sometime later. Measures are therefore needed to make sure the right thing is done when it comes to the weeding of materials. Without proper and adequate measures the wrong thing might be done which can have an effect on the library’s collection.

### **Effect of weeding on library staff**

Weeding demands a considerable deployment of human resources. Is this investment of human resources a sound one? Does the time devoted to weeding detract from other pressing tasks that staff might be doing, or is it a productive long-term investment that pays off in unintended ways? Opinion was mixed as to whether weeding saves time or not.

All respondents interviewed were of the opinion that weeding did save time. The professional librarians however noted that weeding is a great timesaver, especially for reference staff, because “every book is potentially a reference book and weeding cuts down on the number of sources that contain out-of-date information.” Reference staff therefore do not have to waste precious time looking in sources that might turn out to be erroneous, or in wading through only marginally useful sources that have not been weeded. In addition, weeding helps to provide better reader’s advisory services: since shelves are in better order and contain more space, returned books can be shelved more accurately, which facilitates retrieving just the right title for patrons. Two notions of time are evident in these answers. Weeding may be a time burden in the short term, but in the long run, many libraries feel that much time is saved in collection development and reference functions.

### **Suggestions for improvement of the weeding procedure in the library**

Finally, the researchers asked the respondents to suggest measures they think if implemented, could help encourage librarians to weed their collections. A summary of the suggestions were:

The Medical School Library needs enough funds for the acquisition of new books and journals so that old ones on the shelves can be donated to other libraries or sell to bring some financial relief to the library.

1. The library should be financially autonomous.
2. Use of friends of the library – philanthropists for both financial and material support.
3. Selection and acquisition of library materials should be regular.
4. More financial support is needed to build the collection.
5. More funds should lead to regular weeding;
6. The weeding process should be a collective decision.
7. Evaluation of the collection should be done by subject specialists before weeding.
8. The library needs to keep accurate user statistics on borrowers.

A cursory look at the suggestions above shows that the

Medical School Library needs to craft and implement its weeding policy to enhance efficient and effective service delivery.

## Conclusion

The main purpose of this study was to find out the effectiveness and relevance of weeding a library collection. The University of Ghana Medical School, Korle-Bu library was used for purposes of this study. Staff interviewed for this study admitted the importance and relevance of weeding in library management. In spite of its perceived importance, the library lacks a well documented and approved policy that will guide the weeding process and as a result has affected the library in issues regarding responsibility, schedule and frequency of weeding. Staff also find it discouraging to weed because of the number of books, time constraints and cumbersome nature of the process. Management of the library must therefore take critical steps to formulate and approve a policy that will guide the weeding process in the library. This is very important because the library is a medical school library which is supposed to support medical and clinical research in the university.

## RECOMMENDATIONS

Based on the findings of the research the following recommendations are made.

1. A collection development policy be formulated which will include a weeding a policy for the effective management of stock in the library.
2. A regular schedule for weeding must be included in the policy to facilitate weeding in the library.
3. Measures to control weeding in the library must be included in the policy to avoid inappropriate and wrong weeding practices.
4. A permanent storage space for weeded materials should be created to allow for easy weeding and storage of such materials.
5. Weeding of library materials should be done by senior staff, where junior staff are assigned such responsibility, it should be in consultation with the senior staff to ensure proper and accurate weeding in the library.
6. As indicated earlier, lack of funds was also one of the reasons for the reluctance in weeding. This is because staff believe funds to acquire new collections are not enough and therefore to weed collections means reducing the collection in the library. It is therefore recommended that adequate funding should be solicited for the library to enable the flow of new collections into the library while those that are outdated and worn out be discarded.

## Conflict of Interests

The author has not declared any conflict of interest.

## REFERENCES

- Albert B (2006). Alkek Library, Texas State University, Collection Development Policy. <http://www.library.txstate.edu/about/departments/acq/colldev/cdpolicy/cdpolicy-main.html>. (Retrieved September 11, 2013)
- Boon B(2009).Weeding Library Collection. Austin, TX: Texas State Library, pp 1-7
- Booth A (2009). "Fahrenheit451?: a 'burning question' on the evidence for book withdrawal". *Health Inform. Library J.* 26, no. 2, p161-165.
- College of Health Sciences (2010). 9<sup>th</sup> Congregation and Swearing-In Ceremony, Legon, Accra: University of Ghana. pp.12-13.
- Creswell JW (2009). *Research Design*. 3rd ed. Los Angeles, CA: Sage,
- Dubicki E (2008). Weeding: facing the fears. *Collection Building* 27(4):132-133.
- Engeldinger EA (1986)."Weeding of Academic Library Reference Collections: A Survey of Current Practice." *RQ* 25(3):366-71.
- Handis MW (2007) "Practical Advice for Weeding in Small Academic Libraries." *Collect. Build.* 26(3):84-87.
- Hightower BE,John Gantt(2012) "Weeding Nursing E-books in an Academic Library." *Library Collections, Acquisitions, and Technical Services* 36(1-2):53-57.
- Hoffmann FW, Wood RJ (2005). *Library Collection Development Policies: Academic, Public, and Special Libraries*. Lanham, Maryland: Scacecrow Press 352.
- Jacob M (2001) "Weeding the fiction collection: or should I dump Peyton Place"? *Reference & User Services Quarterly* 40, no 3, 234–239.
- Larson J (2008). *CREW: A Weeding Manual for Modern Libraries*. Austin: Texas State Library and Archives Commission. pp. 14, 20, 46, 47, 71.
- Liamputtong P, Ezzy D (2005). *Qualitative Research Methods*. Melbourne: Oxford University Press, 410.
- McGowan B (2011). 'Weed, Yes! Discard, No! There May Be a Collection in That Trash!' *Community & Junior College Libraries* 17(2):87-90.
- Mix Vickie (2010)."Documents journey through time: weeding a history." *Collection building* 29.4 131-136.
- Neuman WL (2007).*Social Research Methods: Qualitative and Quantitative Approaches\_ 6<sup>th</sup> ed*. Boston: Pearson Education, Inc., pp.142-143.
- Patton MQ (2002) *Qualitative Research and Evaluation Methods*, 2nd ed. Thousand oaks, CA: Sage Publications.
- Sarantakos S (2005). *Social research*. 3rd ed. New York, NY: Palgrave Macmillan.
- Slote SJ (2008).*Weeding Library Collections: Library Weeding Methods* 4<sup>th</sup> ed. Englewood: Libraries Unlimited Inc. pp. 3, 5, 6, 10, 11, 14, 49-50, 63.
- Snyder CE (2014) *Data-Driven Deselection: Multiple Point Data Using a Decision Support Tool in an Academic Library' Collection Manage.* 39(1):17-31.
- Wimmer RD,Dominick JR(2011). *Mass media research: an introduction*. Wadsworth, Belmont: Cengage Learning.