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The effects of book location on the selection of paperback books by patrons

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Abstract
The study considered whether changing the physical location of paperback books on the shelf from an eye-level position to a lower position on the shelves significantly affected the selection of books as measured by the number of charges of these books by sixth, seventh and eighth grade students at the South Tama Middle School library in Toledo, Iowa. A sample representing 20 percent of the paperback collection was selected and tracked over two, nine-week sessions in alternating eye-level and foot level locations to determine if there was a significant effect on selection by location. A chi-square (.05) analysis of the data indicated that there is a strong relationship between location on the shelves and likelihood of selection by patrons, and suggests that books at or near eye-level are more likely to be selected by this student population than those at foot-level.

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The Effects of Book Location on the
Selection of Paperback Books by Patrons

A Research Paper
Presented to the
Faculty of the Library Science Department

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

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CHAPTER 1
INTRODUCTION

There are many obvious factors inducing patrons to borrow some books and not others. The borrower may have a particular subject, title or author in mind, in which case the selection of materials for check-out is straightforward. The patron will consult the catalog, an index, or the librarian, for example, to seek out the particular title desired. The user then consults the book shelves which are well-ordered and organized and seeks out the particular book he/she needs. One experiences this type of selection particularly in the non-fiction stacks. To this end, the location of books and their order and organization on the shelves are incidental to the actual process of selecting the books.

At other times, however, one finds patrons casually browsing the stacks with no particular book in mind, looking for something that catches the eye. One expects this type of selection by patrons to occur most often with the fiction and paperback collections. Personal experience suggests that at this point other factors also seem to influence a patron's decision to select a book, among them the location of the book in the stacks. Obviously, if a book is not spotted while browsing, it will not be selected by a patron. Possibly, then, the very nature of the way books are shelved — in a fixed order and hence, generally in a fixed location on the shelf — may reduce a book's chances of being selected by a patron, if it finds itself relegated to the bottom shelf because of an arbitrary whim of the alphabet or other shelving scheme.
**Problem Statement**

Will changing the physical location of paperback books on the shelf from an eye-level position to a lower position on the shelves significantly affect the selection of books as measured by the number of charges of these books by sixth, seventh and eighth grade students at the South Tama Middle School library in Toledo, Iowa? This writer believes that there will be no significant difference at the .05 level in the number of charges between the period when the books are at or near eye-level and when those books are located on the shelves at or near foot-level.

This researcher assumes that factors other than a book's content affect selection. One factor is physical location. The hypothesis is based upon that assumption, and that books at foot-level will be less likely to be seen by users than those at eye-level. It is the additional purpose of this study to determine how strongly a book's relative distance from the eye-level affects a student's decision to select a book, and how strong this effect is at two different heights.

Many paperbacks are not selected by formal means, such as through the catalog or some other bibliographic tool. Students usually select paperbacks without having a specific title in mind. The researcher assumes that the most popular books and the newest books will lead to the most checkouts during the study.

This study will not investigate other reasons patrons may select a book. Such factors as the book's cover, author or title and their influence, if any, upon patron selection will not be considered. The research will attempt to eliminate these possible influences and focus upon the role of shelf location of the paperback.
It is hoped that this study will identify a shelving practice which significantly hinders or enhances a book's chances of being selected by a browsing patron. This may in turn suggest ways to help move the product, that is, the books out to the consumers, the patrons. Possibly, it may suggest a bit more creativity in the librarian's method of shelving materials, such as the fiction and paperback collections, which are frequently browsed. Should the hypothesis be accepted, librarians may want to spend the time and effort which may be spent creatively reshelving books in other endeavors to improve the collection's circulation.
CHAPTER 2
LITERATURE REVIEW

In public libraries, the greatest use of the collection will be made by the general public seeking recreational reading and students reading for class assignments. In school libraries, less emphasis may be placed upon recreational reading, but it remains an important part of the library's daily activity (Asheim, 1957). Houston libraries ("Houston's Popular Library Becomes a Book Stop", 1987, p. 24) have recognized that face-out shelving brings attention to books, and have used that technique with some success. Making books readily accessible to the public is important, and how those books are arranged on the shelves is important to that goal.

Jesse (1952) points out that there are two basic assumptions regarding the arrangement of the book collection: (1) each book has its permanent location in some particular spot on some particular shelf; or (2) each book has a location relative to the rest of the books in the collection according to its classification (p. 3) In most American libraries, the latter is more often the case. The responsibility for maintaining shelf order and the system is deemed important enough that larger libraries may employ a collection manager, whose shelving activities may keep him out of contact with patrons, but whose work touches everyone in the library (Hubbard, 1981, pp. 1-2).

Varying shelf order, however, may occur to (1) temporarily or perhaps permanently pull out all books of the same subject or genre and put them into their own collection space, or (2) be put
temporarily on open shelves. This happens most frequently with fiction, new books, biographies, reserved books, reference books, paperbacks and the like. They may be pulled out to draw separate attention to books of a particular interest, such as local history, and thereby aid the patron in quickly locating them.

Hubbard (1981) points out that when breaking with traditional shelving schemes, as is often the case in school and smaller public libraries, fragmenting the collection into a number of generic sections of reader interest classifications occurs and is expensive to maintain. Shelving and paging, for example, are more difficult and time consuming than when the collection is integrated. On the other hand "serendipitous benefits" can be gained from a break from the hard and fast traditional methods of shelving. However, when fragmentation occurs too extensively, service suffers and no one, including the librarian, can easily find books (pp. 4-5).

The need to provide functional and appropriate bookstacks has also been recognized. Putting full 90-inch high adult bookstacks in an elementary or middle school library would create inaccessible areas for the principal users. Particularly to very young users, these tend to be forbidding places (Lushington and Mills, 1979). Even among adults, the top shelf of these bookstacks exceeds the average line of sight of women by 30 inches and of men by 24 inches (Cohen and Cohen, 1979, p. 204). Forty-six-inch bookstacks have good book capacity and provide full accessibility to the primary grade users. They are recommended for the reference collection as well, as both adults and children should have access to all the reference books, and the
tops of such shelving make good space to rest a book and look up an answer.

A study conducted in the public libraries of Champaign and Urbana, Illinois, (Goldhor, 1972) considered the effect of prime display on circulation of selected adult titles. During the first six months, the circulation of the titles was tracked in both the experimental (Champaign) and control (Urbana) libraries with the books in their normal locations. The researchers then placed the titles in a special display near the circulation desk for six months in Champaign while the location of the books in Urbana remained unchanged. The researchers discovered that the circulation of the selected titles in Champaign in the special display was significantly greater than the circulation in the normal location, and greater than that during either phase at Urbana. However, the researchers cautioned that although the “study supports the initial hypothesis, within the limits of the data presented, better studies in other libraries of the same and of other books are needed to justify any further generalization.” (p. 388).

Baker (1986a) suggests that because browsers go to the library without a particular title in mind, other factors influence their selection of materials. Patrons may use informal, but systematic, strategies to search out materials which are of interest to them directly from the shelves. A person looking for the latest science-fiction book might first check the new book display, rather than utilizing the card catalog to locate it. While perusing the new books, a number of other factors may influence his/her decision, such as the book’s cover, title, author or its location on the shelves. These factors
may be incorporated into the formation of strategies to cope with information overload (p. 316).

Information overload occurs when a person's capacity for processing information is exceeded, resulting in stress from the decision-making process being interfered with by too much information (Baker, 1986a). Research in the retail industry indicates that when consumers are confronted by too many choices, the quality of the consumers' decisions are adversely affected (Bettman, 1970; Richard Green et al., cited in Baker, 1986a; Jacoby et al., 1974). Information overload may confront the browser as he/she enters the library. Every day patrons select books from thousands available and the potential for information overload is great. Consumers adopt strategies, either consciously or subconsciously, to reduce their purchasing choices to a more manageable number (Bettman, 1979). Like consumers, browsers may adopt strategies which simplify and ease the burden of selecting a book. A strategy cited by Baker (1986a) is simply ignoring a great deal of information, and she theorized that a browser “may ignore books on the bottom shelf since he has to stoop to read their titles” (p. 316).

Baker (1986a) suggested that when “exposure”, the strategy of exposing a large number of consumers to a smaller set of items, is properly used, the result is that consumer choices from this smaller group are significantly increased. Engel et al. (1973) presented four steps which a consumer goes through when processing information. They are first exposed to a variety of stimuli. For the exposure to be successful, it must get the consumer's attention. The consumer must then be able to understand it and retain it in short-term memory for
use in later decision-making. Because consumers receive far more stimuli than they can process and retain, they filter out data which is unwanted, unneeded or not understood. Engel reasoned that increasing the number of people exposed to a stimulus increases the number of those who retain that information and choose a particular item.

Much has been assumed concerning the shelving of books and their accessibility. On the one hand, there is much attention to detail concerning arrangement of stacks, their height and location, as well as the accessibility of other facilities unrelated to books and shelving. On the other hand, precious little concern has been given to those books located at foot-level. Even the idea of rearranging the stacks, which may give books at the lowest heights a chance to be spotted more easily, is suggested only for reasons of grouping books of a similar nature. This is done only cautiously, so as not to disrupt the overall organization and system of the library. The idea of routinely rotating a collection to and from shelves of different heights merely to improve circulation of books has been left undiscussed. This may be due to the logistics involved, such as tight shelf space and time constraints of the staff, versus the unknown benefits of such a scheme. Whether or not there is a relationship between book location on the shelf and its chances of being chosen by a patron should also be considered along with the other factors cited earlier concerning shelves and shelving of books.

A study is needed to investigate if such a relationship exists between selection of books and their shelf location, and if so, whether the disparity is great enough to justify development of new book shelf
management routines which can even out the disparity. Cohen and Cohen (1979) point out how unwittingly people become creatures of habit. Their studies have shown how patrons will develop personal zones in the library and will return to them time and time again. This researcher suspects that the bottom shelves of the book stacks are not such a place, and if they are not, books in those locations are at a disadvantage.
CHAPTER 3
METHODOLOGY

**Subjects**

The study was conducted over two academic quarters, or 90 school days during which the library was open. The number of students involved was 392 and consisted of all the sixth, seventh and eighth graders in the South Tama County Community School District. The study focused on a sample drawn from the paperback collection, which consists of approximately 1300 titles. The paperbacks are shelved and racked so that there are no books higher than 60 inches. Indeed, there is no shelving appreciably higher than eye-level in the middle school library and, therefore, the possible affects on books located higher than eye-level could not be tested. The shelves and racks extend to within 4 inches of the floor.

The paperback collection, which was used for the study, comprises about one-sixth of the total holdings of the Middle School library. The paperbacks were chosen because of all the normal browsing materials they receive the highest circulation, their shelving is varied and easy to manipulate, their cataloging is secondary to the normal methods of access, and they are not integrated but are easy to observe. Paperbacks are now shelved according to genre, such as gothic romance, science fiction or mystery, and by series, such as Sweet Valley High or Dark Forces. Within these groups there is no assigned order and books are reshelved in the next available space. Paperbacks have their own card catalog and receive an author and title card as well as a series card when appropriate.
The paperbacks identified in the study were tracked via circulation reports generated by computer. Circulation in the Middle School is maintained on an Apple //e microcomputer running "Library Circulation System III" software from Winnebago Software on a 20 Mb Sider hard disk drive. At any time, the program can generate information concerning how many times a book has been checked out and, if it is currently checked out, to whom. The program can give usage statistics for each book and for each material type, for example, fiction, reference or paperback.

The sixth, seventh and eighth grade students of the South Tama Middle School, Toledo, Iowa, were the population. They comprised the total middle school enrollment in the district. Thirteen per cent of the students are minority (Native American). Because of the method of tracking circulation used by the Middle School, records are not maintained which document the individual user's history of specific materials checked out. Therefore, for the purposes of the study, the entire student population was used.

**Design and Procedure**

A sample of about 20 per cent of the paperback collection, or about 260 paperbacks, were drawn from the inventory list for the study. The paperbacks used in the study were selected by the researcher and the library secretary. New paperbacks were the first selected, followed by those which the researcher and library secretary knew from previous experience were popular books. Books were also selected on the basis of recommendations of student library aides and patrons representing all three grade levels. Of the 260 books, 240 served as the initial sample for the study, 120 for each location. The
120 paperbacks used for each color group were randomly identified from the pool of 260 books. The 20 remaining books were a supplemental pool to be used if any of the 240 books were lost or stolen.

After being selected, they were divided evenly and alternately by author. The first 130 titles were assigned the color code of pink, and the final 130 titles were assigned to the color code of yellow. This was done to facilitate reporting and to assist in reshelving as they circulated. Each book was given a discrete mark on the top edges of the pages near the spine so as to identify it to the librarian and aides as being part of the study and to assist its proper shelving.

These two groups exchanged places during the second nine weeks.
One half of the books were shelved on the upper two shelves of the bookstack. They are four and five feet respectively from the floor and together caught the line of sight of the population. The bottom two shelves contained the other half of the sample. They ranged from four inches to about 16 inches off the floor. The books on the middle shelves were not used for the study and contained other paperbacks to give the bookshelf a normal appearance.

Care was taken that other books did not filter into the shelves and dilute the sample and that the books in the sample were properly reshelved as well. Periodic reading of the shelves was performed to check the integrity of the sample.

The selected paperbacks were alphabetized by author. Beginning with "A" and proceeding through "Z", paperbacks were placed alternately in one group then the other to ensure a balance of authors in each group. They were not in strict alphabetical order on the shelves within their group during the study, however, as this was not the case with the balance of the paperback collection.

The study was conducted over the second and third quarters of the school year. For the purposes of the study, each quarter had 45 days of school when the library was open for circulation of materials.

The number of circulations prior to the start of the study for each book used was noted and then subtracted from the circulation totals recorded during the study. This figure yielded the actual number of circulations during the term of the study.

During the first nine week period, the yellow books occupied the eye-level positions, and the pink books were on the lowest shelves.
At the end of the first 45-day test period, the number of circulations for each book was computed and recorded.

During the second time period, the shelving location of the two groups was reversed, with the pink books above the yellow books. Again, after nine weeks, checkouts for those paperbacks were computed and recorded.
CHAPTER 4
RESULTS

On two days, school was cancelled due to snowstorms. During the second period of the study, the hard disk drive which contains the circulation software and data crashed and had to be returned to the manufacturer in Carson City, Nevada. The programs and data were saved but the drive and circulation system were down for four weeks. The books in the study were temporarily held from circulation and the study was suspended. These disruptions in the study were accounted for by extending the study accordingly so that each period had 45 circulation days of school.

There were six days of one- or two-hour early dismissals due to scheduled teacher inservices and bad weather. These were counted as full days for the purposes of the study.

Three books were lost from the original group selected for the study. These books were replaced by books randomly selected from the reservoir of paperbacks included in the study for that purpose.

The data for the study are presented in Table 1. The rows represent the two test groups, pink and yellow, the identifying colors of the two samples of books used. The columns designate the two test periods, the second nine weeks of the school year when the yellow books were placed above the pink books, and the third nine weeks when the pink books were shelved above the yellow books. The total number of circulations for each group and for each period were calculated and placed in appropriate cells, as well as the overall total number of charges for the entire 90 circulation days for both groups.
The total checkouts for both groups during the entire study was 922. During the study, the pink books were checked out 472 times and the yellow group 450 times. The total checkouts for the first nine weeks was 523, of which the pink books were checked out 236 times and the yellow books 287 times. During the last nine weeks, the samples were checked out 399 times, of which the pink books accounted for 236 of the charges, and the yellow books 163. There was a drop off of checkouts from the first nine-week period to the second of 124 checkouts, nearly 24 per cent fewer.

During both nine-week periods, those books placed at eye-level circulated more than those at foot-level. A chi-square test was performed to determine if the number of observed checkouts and the number of expected checkouts between the groups was significantly
different. The observed frequencies varied by 30 or more charges from
the expected frequencies in every instance. A chi-square value of
3.841 or greater would mean rejection of the null hypothesis at the
.05 level. The data in the study yielded a chi-square equal to 17.814
with one degree of freedom, and the hypothesis was rejected.
CHAPTER 5
CONCLUSIONS, RECOMMENDATIONS AND SUMMARY

Conclusions

The researcher found a significant difference at the .05 level, rejected the hypothesis and concluded that the location of books does make a significant difference in the number of charges of the books. In this case, paperback books at the Toledo Middle School Library located at eye-level are selected significantly more often than those at foot-level by the sixth, seventh and eighth graders in that building.

Because paperbacks at foot-level are more difficult to spot and access than paperbacks at eye-level (Baker, 1986a), the patron may subconsciously, or consciously, use this to narrow his/her choices and overcome information overload. This is consistent with Baker's (1986a) findings, and also with consumer studies concerning selection of goods (Bettman, 1970; Richard Green et al., cited by Baker, 1986a; Jacoby et al., 1974). In those studies, exposure techniques helped guide consumers (patrons) in making choices. Baker (1986a) goes on to assert that "browsers need, want, and will use some type of guidance to narrow their book selection (p. 315)". By overlooking books at foot-level, the middle school students may be narrowing their choices in order to cope with information overload. Those books, therefore, receive poor exposure. Baker (1986a) infers that books belonging to a smaller set of books which receive exposure to a large number of patrons are chosen significantly more often. The paperbacks at eye-level receive much better exposure as they are part of a smaller set of remaining choices.
The 124 fewer checkouts of paperbacks from the first session to the second session is noteworthy. One explanation may be that the newness and popularity of the new books would make them initially much more in demand early in the study. As the study progressed, these books may have lost some of their attraction to the patrons as they became more familiar with them. Also, once these books had been read, one may assume that most readers would not check them out again and they looked elsewhere for reading material.

Another explanation for the drop off in paperback checkouts may have been bias. The sixth grade language arts teacher brings her classes into the library once a week to browse and select reading materials. This researcher spends several periods with her classes presenting library skills and doing booktalks. In the past, she has downplayed the paperback section in favor of the hard-cover fiction section, and the researcher compounded the problem by telling the students about the extra effort put into selecting books for the fiction section, and that the most recently released fiction may be found there. Additionally, over the past three years, the researcher has booktalked only three or four paperback books to the students. The researcher sought to eliminate or reduce those biases in the presentation of library skills and booktalks to the students. Because the library skills were presented toward the end of the second nine weeks, the opinions of the researcher and the teacher involved may have turned some of the potential browsers away from the paperback section to other materials such as fiction. However, no comparable tracking of fiction or other materials was done to see how the checkout of fiction materials was affected at this time.
It is also possible that the drop off in checkouts was part of an overall trend in the library, that checkouts of all materials in the library dropped off significantly. As circulation statistics in the library are only reported annually and the researcher did not check for this during the study, it is impossible to verify this possibility.

Because paperbacks at eye-level are significantly more likely to be selected by the population than those at foot-level, the result might suggest moving all materials to eye-level to give each an equal opportunity to be selected. As a practical matter, that is impossible. In libraries where space is often limited and at a premium, media specialists have no choice but to utilize any accessible space for their collections, including at or near foot-level and often much-higher than eye-level. Constructing a library where all materials were shelved at eye-level would very likely be seen as wasteful of space and impractical.

Perhaps the materials could be rotated through the shelves periodically so that those materials generally found near the floor might also spend some time at or near eye-level. This would mean handling every volume and would be a tremendous chore for the media specialist and his/her staff. Should an industrious librarian carry it out, other problems may be introduced, such as the need to relabel the shelves and the confusion to patrons and staff alike when familiar materials are no longer in their familiar places. A librarian may indeed conclude that the detriments outweigh the benefits.

The study indicates that books at eye-level are more likely to be selected and, conversely, those at foot-level are less likely to be selected by patrons. This agrees with Baker (1986b) that materials
readily accessible to patrons will have significantly higher selection and usage.

The corollary that those books at foot-level are less likely to be selected could be misused by librarians to "bury" a book which is unpopular with the librarian or may court a book challenge from the public. The media specialist may employ this strategy to avoid those problems without outright censoring or withdrawing the material.

This study did not consider the effect of the physical location of the book stacks and shelving within the library. The effect of prime display of book titles on usage has been covered in a number studies by Mueller (1965), Goldhor (1972), Baker (1986b) and others, which showed that prime displays had a significant effect on the selection of materials in those displays under certain conditions. Nor did the researcher consider whether other types of materials, such as magazines or reference materials, are similarly affected by shelving location. The study did not take into account whether or how small children or adults may be influenced in their selection of materials by shelf location.

Recommendations

Another study might investigate how less popular paperbacks circulate in comparison to more popular or newer paperbacks if they are shelved above the more popular group. This study might also be repeated in a library serving small children, such as in an elementary school, or in a library serving primarily adults, such as a college library, to see how those populations react. One might carry it out in a public library to see if and how the general public as a whole is influenced.
The study may also be changed by selecting materials other than paperbacks to see if their selection by patrons is also affected by location on the shelves. One might study whether materials less frequently browsed and more often sought out with a purpose in mind, such as reference and non-fiction, are hindered or aided by their location on the shelves.

Summary

The study considered whether changing the physical location of paperback books on the shelf from an eye-level position to a lower position on the shelves significantly affected the selection of books as measured by the number of charges of these books by sixth, seventh and eighth grade students at the South Tama Middle School library in Toledo, Iowa. A sample representing 20 percent of the paperback collection was selected and tracked over two, nine-week sessions in alternating eye-level and foot-level locations to determine if there was a significant effect on selection by location. A chi-square (.05) analysis of the data indicated that there is a strong relationship between location on the shelves and likelihood of selection by patrons, and suggests that books at or near eye-level are more likely to be selected by this student population than those at foot-level.
BIBLIOGRAPHY


ABSTRACT

The study considered whether changing the physical location of paperback books on the shelf from an eye-level position to a lower position on the shelves significantly affected the selection of books as measured by the number of charges of these books by sixth, seventh and eighth grade students at the South Tama Middle School library in Toledo, Iowa. A sample representing 20 percent of the paperback collection was selected and tracked over two, nine-week sessions in alternating eye-level and foot-level locations to determine if there was a significant effect on selection by location. A chi-square (.05) analysis of the data indicated that there is a strong relationship between location on the shelves and likelihood of selection by patrons, and suggests that books at or near eye-level are more likely to be selected by this student population than those at foot-level.