**MANAGING CHANGE IN UNIVERSITY LIBRARIES IN KENYA: AN INVESTIGATION OF LIBRARY SPACES**

1Milcah Wawira Gikunju

**ABSTRACT**

**Purpose:** To assess the current status of library spaces in Kenyan university libraries;

**Research Methodology:** This study adopted a pragmatic research philosophy and employed convergent mixed methods design and multiple case studies strategy. The study population is university library users (students, academic staff) and librarians in Kenya. There were six (6) participating universities (three public universities and three private universities) purposefully selected based on their age (time they have been in existence). Students and academic staff participated in a survey; librarians participated in focus groups while university librarians and students with disabilities had interviews. This study collected data through online questionnaires, online focus group discussions and telephone call interviews. The qualitative data was thematically analysed while the quantitative data adopted a statistical approach that encompasses descriptive statistics.

**Findings:** The reference section, general reading space, circulation area and study carrels were available in the majority of the universities. The serials section, computer laboratory, discussion rooms and meeting/conference room facilities were fairly available in the universities. It was also established that places to take a nap or sleep to rest, food and drinks area, places to make phone calls and relaxing areas/lounge were least available in most of the universities.

 **Recommendations:** The study recommends for the reconfiguration of university library spaces to include some of the missing important aspects of the library. This can be done through consultative meetings with university library management, library users, university management and funders of these library adjustments activities.

**Keywords:** *Library spaces, University libraries, Change management, Reconfiguring libraries, Kenya*

# I INTRODUCTION

In the global sphere, university library users’ needs continue to change. Consequently, university libraries are repositioning themselves to address the changing users’ needs. An important aspect of the change revolves around the library space; many university libraries are making efforts to change their spaces to meet the need driven by advancement of information technology, improved higher education systems and shifting of users’ expectations. However, the efforts in changing the spaces in order to meet users’ needs in some cases leave out the user as indicated in several studies particularly in the needs assessment and planning process (Musangi,Odero & Kwanya, 2019; Ateka, 2018; Wanyonyi, 2018; Ellison, 2016). This leads to having reconfigured spaces which meet the users’ needs less.

Unfortunately, monies, time and other resources might have been spent and are likely to continue being spent on library reconfiguration projects which yield less than the desired outcomes and the resources end up not being optimally utilised.

The library shift began in late 1980s and gathered momentum in the 1990’s in the developed countries though it was not clearly specified in the developing nations (Swamy et al., 2015). The rapidly changing Information and Communication Technology (ICT) and education systems have influenced the user needs to a larger extent where users’ needs are changing fast and unpredictable.

With this, many university libraries are faced with the question of how to maximise on library spaces now that the books occupy less space. This has led the university library into reconfiguring the libraries as learning spaces, educational and technology hub with an aim of contributing to the learning process. However, even with the numerous university libraries tackling this issue of space reconfiguration, there are times libraries reconfigure spaces without engaging the relevant category of users. It should be the objective of each university library to engage users in space planning projects. Feedback from library users provides insights on the needs of the users and it is counted as the most reliable way to gauge the effectiveness and usefulness of a library (Decker, 2020).

Having seen that university libraries are in a constant state of evolution in an effort to adjust services that better meet users’ needs, incorporating user - centered changes in the library design helps the library to stay abreast with evolving needs and expectations (Cobblah & Van Der Walt, 2016; O’Sullivan & Partridge, 2016).

Studies on space reconfiguration in Kenya such as the one by Ateka (2018) on university library spaces, indicates that the interviews done involved only the university librarians. She points one of the lessons as the need to involve students in space reconfiguration. Ateka (2018) further argues that librarians can no longer assume that they know and understand the users’ needs. The researcher is of the view that apart from the students, all categories of users in university libraries ought to be included in giving feedback. A study by Musangi, Odero and Kwanya (2019) conducted in Kenya laid more emphasis on virtual library spaces in university libraries.

Therefore, for university libraries to succeed in reconfiguring spaces whether virtual, physical or cultural, users’ feedback should be considered before embarking on the exercise to avoid ending up with unsuitable library space models that serve users’ needs less.

# II RESEARCH METHODOLOGY

This study adopted a pragmatic research philosophy and employed convergent mixed methods design and multiple case studies strategy. The study population is university library users (students, academic staff) and librarians in Kenya. There were six (6) participating universities (three public universities and three private universities) purposefully selected based on their age (time they have been in existence). Students and academic staff participated in a survey; librarians participated in focus groups while university librarians and students with disabilities had interviews. This study collected data through online questionnaires, online focus group discussions and telephone call interviews. Out of the 1467 questionnaires administered to university students, 785 were properly filled and returned representing a 53.5% response rate. This response rate was considered as satisfactory enough for a viable study. Also, 863 academic staff out of 1288 participated in the study representing a 67.0% response rate which was deemed as adequate for the study. The number of entries were all above 50% which in survey research is considered excellent and sufficient to inform the study. The qualitative data was thematically analysed while the quantitative data adopted a statistical approach that encompasses descriptive statistics.

# III RESULTS AND DISCUSSIONS

The results of the study on the status of library spaces and spaces are presented in this section. The respondents were asked to select the type of available spaces found in their libraries and they could select more than one type of space. The study investigated the status of library spaces and facilities using descriptive results presented as percentages, means and standard deviations as indicated in Table 1. The section also presents the Chi square tests to demonstrate the nature of association between space availability in the library and student satisfaction with library spaces and facilities.

**Table 1: Available spaces in the library**

|  |  |  |
| --- | --- | --- |
| **Available library spaces** | **Academic Staff**(n=1288) | **Students**(n=1467) |
|  | **F** | **%** | **Rank** | **F** | **%** | **Rank** |
| Circulation area | 696 | 80.6 | **4** | 519 | 66.1 | **4** |
| Reference section | 752 | 87.1 | **1** | 622 | 79.2 | **2** |
| Serial section | 440 | 51.0 | **6** | 390 | 49.7 | **7** |
| General reading area | 744 | 86.2 | **2** | 676 | 86.1 | **1** |
| Computer laboratory | 528 | 61.2 | **5** | 600 | 76.4 | **3** |
| Study carrels | 697 | 80.8 | **3** | 455 | 58.0 | **5** |
| Discussion rooms | 384 | 44.5 | **8** | 433 | 55.2 | **6** |
| Meeting/conference room. | 424 | 49.1 | **7** | 285 | 36.3 | **8** |
| Food and drinks area | 136 | 15.8 | **10** | 98 | 12.5 | **11** |
| Place to make phone calls | 85 | 9.8 | **11** | 108 | 13.8 | **10** |
| Relaxing area/Lounge | 263 | 30.5 | **9** | 198 | 25.2 | **9** |
| Place for a nap / sleep to rest | 54 | 6.3 | **12** | 55 | 7.0 | **12** |

Based on the results in Table 4.1, reference section ranked tops priority space among the academic staff while general reading area ranked tops among students. The reference section was also available in many universities as indicated by 79.2% of students and 87.1% of academic staff. This was an indication that some university libraries did not have reference section. Further, circulation area was available in the majority of the universities as responded by 80.6% of academic staff and 66.1% of students. In terms of priority list, study carrels ranked 3 among academic staff and 5 among students. The serials section, computer laboratory, discussion rooms and meeting/conference room facilities were fairly available in the universities. It was also established that places to take a nap or rest, food and drinks area, places to make phone calls and relaxing areas/lounge were not available in most of the universities.

University libraries continue to evolve as a result of changing technologies and study habits of the users. In the past, university library space had been structured to accommodate a certain number of users, did not include library discussion areas, food and drink areas, call areas and lounge areas. However, the structure of university library spaces is changing with the growing needs and preferences of library users to reflect these new library users’ needs. As universities struggle to cope with this changing education context, there is a growing need, more than ever, to understand what the next move for the libraries would be. In an interview with the Librarian 1, she indicated:

The presence of discussion rooms for post graduates to discuss research work, meet supervisors, virtual conference with supervisors, quiet spaces, open reading areas for students and study carrels, spaces for post graduate students to undertake intensive research as important. In addition, spaces to talk on phone, presence of ICT facilities in the library, data centre to assist researchers access information, archive for archive resources and access to publication support facilities as very essential spaces in a modernised library facility. Furthermore, modern libraries ought to incorporate spaces to take coffee and water which are prohibited by traditional library settings [Librarian 1, June 2022]

Similarly, Librarian 2 said:

There is need to enhance access to ample spacing, comfortable reading desks and chairs, ample sitting area, private studies, library discussion, private space for post- graduate students, space for more intensive learning, reliable Wi-Fi to seek information and access to virtual library to meet 21st library expectations. [Librarian 2, June 2022]

In the same vein, the Librarian 3 noted that;

Creating different spaces for different users is important. The availability of library periodicals sections, Africana sections, digital hub, study rooms and discussion rooms where faculty members and postgraduate students can discuss and consult are being recognised as critical by users. Moreover, recreational spaces in the library, lounge areas as well as café for snacks, coffee, soda should be incorporated into the modern library spaces. There is also a need for revised policy that advocate for liberal use of library spaces like bringing of drinks and snacks to the library. There is also a need for spaces for arts and music students. These could include sound-proof rooms and performance areas. [Librarian 3, June 2022]

Based on the key informant interviews, there is a mounting pressure from library users to have more usable and efficient library spaces that are attractive to the users in various ways, for instance, flexible teaching, learning and research spaces. As per the results above, discussion rooms, conference rooms, food and drinks areas, places to make phone calls and relaxing areas are not available in most university libraries yet they are among needed spaces by library users to be included in the modern libraries. All this is done with the optimism that once library spaces are reconfigured, they could bring in more users, support teaching and learning and result in the efficient utilisation of the available spaces. However, unless these efforts are informed by factual data on the library space options that the users need, it would be difficult to reconfigure spaces that suit the users’ needs.

 **Frequency in using available spaces in the library**

In determining academic staff and students’ frequency of use of available spaces in the circulation areas of the library, the respondents were required to choose one option from a set of statements that best describe their behaviour. The results are tabulated in the subsequent figure 1.

***Figure 1: Academic staff frequency in using available spaces***

The circulation area was never used by most of the academic staff (28.7%) with 21.8% using the circulation area on yearly basis. A total of 16.8% of the academics used the circulation area on a weekly basis while 11.9% of them used the area monthly. The results imply that the use of the circulation area by academic staff remains low. The reference section was used on a yearly basis by the academic staff (27.7%). However, 25.7% of the academic staff did not use the reference section at all. Only 18.8% of the academics used the reference section on a daily basis. It was also established that 37.6% of the academic staff used the serials section on a daily basis, 14.9% (weekly) and 16.8% (yearly). A total of 23.8% of the academic staff did not use the serials section at all. Regarding the general reading area, 28.7% of the academic staff used the area on a yearly basis while 29.7% did not use the area at all. Most of the academic staff visited The computer laboratory, study carrels, discussion rooms and meeting or conference room on a daily basis and weekly basis. The food and drinks area, place to make phone calls, area to relax or lounge and place for a nap, and to take a rest are unavailable in most universities according to the academic staff. This is an indication that most university libraries do not have areas to take food and drink, make calls, relax and take a nap which are some of library requirements for modernised library system that meet varied user needs. The study further investigated the time period the academic staff visited the library. The results are shown in Table 4.8.

#### **Table 4.8: Time period the academic staff visited the library**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **How long were you in the library on your last visit** | **Less than 30 minutes** | **Up to 1 hour** | **Up to 2 hours** | **More than 2 hours** |
| **%** | **%** | **%** | **%** |
| How long were you in the library on your last visit | 31.7% | 17.8% | 19.8% | 30.7% |

It was established that only 31.7% of the academics visited the library for less than 30 minutes, 30.7% for more than two hours while 19.8% for up to two hours. Only 17.8% of the academic staff visited the university library for just one hour. The results signify very short visits to the library which is an indication that the university libraries may be missing out on spaces that are needed by the users for instance, spaces to accommodate taking food/drink, making calls, lack of spaces to relax and take a nap which are being fronted as necessity for modern libraries. The study also investigated the frequency students are using the following available spaces in the library. Table 4.9. shows students’ frequency in using available spaces in the library.

#### Table 4.9: Students’ frequency in using available spaces in the library

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **How often do you use the available spaces** | **Daily** | **Once a week** | **Once a month** | **Once a year** | **Never** |
| **%** | **%** | **%** | **%** | **%** |
| Circulation area | 51.7 | 23.8 | 15.2 | 3.6 | 5.7 |
| Reference section | 44.0 | 26.9 | 19.1 | 4.6 | 5.4 |
| Serial section | 59.6 | 17.8 | 14.1% | 2.4 | 6.0 |
| General reading area | 51.5 | 27.5 | 14.6% | 2.9 | 3.4 |
| Computer laboratory | 47.7 | 24.6 | 15.2 | 3.6 | 9.0 |
| Study carrels | 60.4 | 17.2 | 11.5 | 2.3 | 8.7 |
| Discussion rooms | 7.9 | 20.9 | 13.2 | 2.2 | 55.8 |
| Meeting / conference room | 10.2 | 9.6 | 11.2 | 2.5 | 66.4 |
| Food and drinks area | 9.7 | 4.5 | 4.6 | 1.1 | 80.1 |
| Place to make phone calls | 9.9 | 5.5 | 4.1 | 1.1 | 79.4 |
| Area to relax/Lounge | 9.4 | 7.3 | 7.8 | 1.5 | 74.0 |
| Place for a nap / sleep to rest | 11.6 | 3.3 | 3.7 | 1.3 | 80.1 |

In all the 12 listed library spaces usage as shown in Table 4.9, the majority of students used the circulation area on a daily basis (51.7%) and once a week (23.8%). Regarding the reference section, most of the students used it on a daily basis (44.0%) with a significant number of students using the reference section once a week (26.9%) and once a month (19.1%). Similarly, the majority of students used the serials section, general reading area, computer laboratory and study carrels on a daily basis. The discussion rooms, conference room, food and drinks area, place to make phone calls, area to relax and place for a nap to rest were not available as indicated by the majority of the students. This is an indication that the majority of the university libraries did not have discussion rooms, conference room, food and drinks area, place to make phone calls, area to relax and place for a nap or to take a rest. The reasons for disparities in the frequency of use of the library services could indirectly be linked with the frequency of use of the library. Interview responses by students suggest that the opening hours of the library impacts on users’ library space behaviour. Student 2 stated as reported verbatim hereunder during the interviews:

I visit the library 4 times a week. The library opens from 8am to 8pm. I feel the time scope is limited and the need to review it is important to accommodate all users with varying activities that affect their library use. [Student 2, June 2022]

In the above excerpt, the duration of opening hours of the library (*time scope*) with diversity of library space (*accommodate all users*) determine the variety of activities the students can engage in (*varying activities*) and in turn (though not explicitly stated) influence the space usage. In another interview with Student 3, she said:

I visit the library on a daily basis. The library is opened from 8am to 7pm. [Student 3, June 2022]

As use of the university library space takes a new turn, there are various reasons for reconfiguring spaces. One of them is reconfiguring space from housing print collections as the main sources of information to more collaborative and social environment for study and production. This shift is brought about by the exponential growth of electronic resources.

### 4.1.2 Chi square tests between space availability in the library and student satisfaction with library spaces and facilities

A Chi square test was conducted between space availability in the library and student satisfaction with library spaces and facilities. Table 4 shows the Chi square test results as per the students’ response.

**Table 4: Space availability in the library and student satisfaction with library spaces and facilities**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | User satisfaction with Library spaces and facilities |  |
|  |  | unsatisfactory | satisfactory | Total |
| Space availability in the library  | Adequate | 74 | 489 | 563 |
|   | Inadequate | 147 | 75 | 222 |
| Total |  | 221 | 564 | 785 |
| Chi-square | **(χ)** | 10.503 |  |  |
|  | P-value | .029 |  |  |

Table 4 shows that adequate space availability in the library resulted to student satisfaction with library spaces and facilities. The association between adequate space availability in the library and student satisfaction with library spaces and facilities is statistically significant as supported by a Chi square of 10.503 and a reported p value of .029<0.05. This implies that adequate space availability in the universities’ libraries is a significant predictor of general user satisfaction with library spaces and facilities. With the growing number of library users, the availability of adequate library spaces for learning is essential. Learners are shifting their preferences to libraries with adequate and ample learning spaces. Likewise, there was a significant association between adequate space availability and academic staff satisfaction with library spaces. The results are shown in Table 5.

**Table 5: Space availability in the library and academic staff satisfaction with library spaces and facilities**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **User satisfaction with Library spaces and facilities** |  |
|  |  | **unsatisfactory** | **satisfactory** | **Total** |
| Space availability in the library  | Adequate | 62 | 513 | 575 |
|   | Inadequate | 205 | 83 | 288 |
| Total |  | 267 | 596 | 863 |
| Chi-square | **(χ)** | 18.206 |  |  |
|  | P-value | .000 |  |  |

Table 5 shows that adequate space availability in the library resulted in academic staff satisfaction with library spaces and facilities. The association between adequate space availability in the library and academic staff satisfaction with library spaces and facilities is statistically significant as supported by a Chi square of 18.206 and a reported p value of .000<0.05. This implies that adequate space availability in the universities’ libraries is a significant predictor of general user satisfaction with library spaces and facilities.

**4.4.1.3 Duration in the Library in the last visit**

The students were asked to indicate the duration they stayed in the library during their last visit. The results are shown in Figure 4 and Table 6.

**Figure 4: Duration in the Library in the last visit**

**Table 6: Duration in the Library in the last visit (n=1467)**

|  |  |  |
| --- | --- | --- |
| ***Duration in the Library in the last visit*** | **Students** | **Academic staff** |
| **F** | **%** | **F** | **%** |
| Less than 30 minutes | 95 | 12.1 | 256 | 29.7 |
| More than 2 hours | 295 | 37.6 | 282 | 32.7 |
| Up to 1 hour | 141 | 18.0 | 171 | 19.8 |
| Up to 2 hours | 254 | 32.4 | 154 | 17.8 |
| Total | 785 | 100.0 | 863 | 100.0 |

The results in table 6 show that most of the students spent more than two hours in the library during their last visit to the library. It was also established that 32.4% of the students visited the library up to two hours. Also, 18.0% of the students had visited the university library for only one hour. According to the respondents, the inadequate library resources, limited or totally lack of access to study carrels, places to relax and take a nap and restrictive policies that prohibit discussion and consultation within the library, making calls and drinking within the library. These may have resulted to the limited visits by users to the library.

The results above also showed that most of academic staff spent more than two hours in the library in the last visit to the library. Another significant portion, 29.7% (256), of the academic staff spent less than 30 minutes. It was also established that 19.8% (171) visited the library for up to 1 hour. Also, 17.8% (154) of the academic staff had visited the university library for up to two hours. The results imply that academic staff have not been actively visiting the university library. The limited visits may be attributed to inadequate library resources, limited access to study carrels, places to relax and take a nap and restrictive policies that prohibit discussion and consultation within the library, making calls and drinking within the library. This is an indication that most of Kenyan university libraries are based on the traditional model that only provides learning materials without the value-adding library amenities like discussion rooms, place to make calls and drink.

# 5.0 DISCUSSION OF FINDINGS

The objective was to assess the current status of library spaces in Kenyan university libraries. In terms of available spaces, reference section ranked top among the academic staff while general reading area ranked top among students. The reference section was also available in many universities as indicated by 79.2% of students and 87.1% of academic staff. Further, circulation area was available in the majority of the universities as shown by 80.6% of academic staff and 66.1% of students. Study carrels ranked 3 among academic staff and 5 among students. The serials section, computer laboratory, discussion rooms and meeting/conference room facilities were moderately available in the universities. It was also established that places to take a nap or sleep to rest, food and drinks area, places to make phone calls and relaxing areas/lounge were least available in most of the universities.

University libraries continue to evolve as a result of changing technologies and study habits of the users. In the past, university library space had been structured to accommodate limited number of users, did not include library discussion areas, food and drink areas, call areas and lounge areas. However, in the growing needs and preferences of library users, the structure of university library spaces is changing to reflect these new library users’ desires. As universities struggle to cope with this changing education context, there is a growing need than ever to understand what the next move for the libraries would be. A significant association between adequate space availability in the library and satisfaction of library users was established. With growing number of library users, the availability of adequate library spaces for learning is essential. Learners are shifting their preferences to libraries with adequate and ample learning spaces. Likewise, there was a significant association between adequate space availability and academic staff satisfaction with library spaces. The library learning spaces further the learning commons’ goal by providing formal and flexible informal learning spaces.

Furthermore, the evolution of library learning spaces concept in university libraries lays emphasis on the provision of more varied spaces to accommodate and support varied needs and preferences of different users or learners. Library learning spaces aim at connecting students to technology, information and co-curricular learning. This enables the use of a variety of materials in the classroom and presents them in a diverse way to cater for different students. This shift is based on the understanding that spatial designs influence learning behaviour. Oblinger (2006) opines that space, whether physical or virtual, can have an effect on learning. Matthews, Andrews and Adams (2011) hold a similar view that the design of spaces in university libraries inspires and influences specific behaviour. Makori (2009) pointed out that Kenyan libraries faced myriad challenges. Some of the challenges include: information environment and media landscape, technological innovation, user expectations and economic forces that continue to influence the physical library premises. The earlier image of a collection-based library is paving way for a communication-based library. Hellen (2007) acknowledges that the new information society comprises of new web-based library services and access to digital resources that require new approaches.

Further, there is growing pressure from library users to have more usable and efficient library spaces that are attractive to the users in various ways, for instance, flexible teaching, learning and research spaces. As per the results above, discussion rooms, conference rooms, food and drinks area, places to make phone calls and relaxing areas are not available in most of universities libraries yet they are among of desires by library users to be included in the modern libraries. All this is done with the optimism that once library spaces are reconfigured, they could bring in more users, support teaching and learning and result in the efficient utilisation of the available spaces. However, unless these efforts are informed by factual data on the library space options that the users need, Teleha et al. (2017) caution that it would be difficult to reconfigure spaces that suit all the space needs. Fakoya-Michael and Fakoya (2019) echo the same sentiments and assert that librarians ought to be aware of their users’ space needs and the means to effectively address them.

As use of university library space takes a new turn, there are various reasons for reconfiguring spaces. One of them is reconfiguring space from housing print collections as the main sources of information to more collaborative and social environment for study and production (Andrews, Wright, & Raskin, 2016). This is a shift in idea that is brought about by the exponential growth of electronic resources. (Lippincott, 2012) advises libraries the need to understand the learning styles of today’s students so as to provide environment conducive for engagement and learning and this includes how libraries promote their services and configure their spaces. The main concern of the reconfigured spaces should be to meet the library users’ needs that are constantly changing. Ateka (2018) further argues that librarians can no longer assume that they know and understand the users’ needs. The researcher is of the view that apart from the students, all categories of users in university libraries ought to be included in giving feedback.

# 6.0 CONCLUSIONS

The study concludes that the current status of library spaces, comprise reference section, circulation area and study carrels. However, the serials section, computer laboratory, discussion rooms and meeting/conference room facilities are limited or relatively developed in most of the Kenyan library universities. The places to take a nap or sleep to rest, food and drinks area, places to make phone calls and relaxing areas/lounge were absent in most of the Kenyan university libraries.

# 7.0 RECOMMENDATIONS

It was established that current status of university library spaces in Kenya comprise reference section, circulation area and study carrels. However, the serials section, computer laboratory, discussion rooms and meeting/conference room facilities are limited or relatively developed in most of the Kenyan library universities. The places to take a nap or sleep to rest, food and drinks area, places to make phone calls and relaxing areas/lounge were absent in most of the Kenyan university libraries. The study recommends for the reconfiguration of university libraries to include these noble aspect of the library. This can be done through consultative meetings with university library management, library users, university management and sponsors of these library adjustments activities.

# 8.0 REFERENCES

Ateka, A. N. (2018). Considerations in the Design of “New” University library Spaces in Kenya. *IATUL Annual Conference Proceedings*, 1–8.

Beard, C. & Bawden, D. (2012). University libraries and the postgraduate student: Physical and virtual spaces. *New Library World,113*(9/10), 439-447. doi:10.1108/03074801211273911

Beard, J. & Dale, P. (2010). Library design, learning spaces and academic literacy. *New Library World,111*(11/12), 480-492. doi:10.1108/03074801011094859

Chepkwony, J. (2012). *Libraries in the early 21st century, volume 2: An international perspective*. Edited by Sharma, Ravindra N. / IFLA Headquarters DE GRUYTER SAUR 2012 Pages: 345-358

Cobblah, M.A, &Van Der Walt, T. (2016). The Contribution of Effective Library and Information Services to Academic Achievements at Some Selected Universities in Ghana. Libri 66(4):275-289.

Decker, E.N. (2020). Engaging Students in University library Design: Emergent Practices in Co-Design, New Review of Academic Librarianship, DOI:10.1080/13614533.2020.1761409

Ellison, W. (2016). Designing the learning spaces of a university library. *New Library World,117*(5/6), 294-307. doi:10.1108/nlw-01-2016-0006

EunYoung, Y.L., Tae Heon, L. and LaTesha, V. (2013), “Planning library spaces and services for millennials: an evidence-based approach”,Library Management, 34 (6/7), 498-511.

Habre, C., & Kammourié, H. (2018). Redesigning Spaces for Effective Learning: Challenges Facing Riyad Nassar Library in Meeting Users Perceptions and Expectations. *Journal of Library Administration,58*(5), 519-544. doi:10.1080/01930826.2018.1468674

Hellen, N. (2007), IFLA Library Building Guidelines: Development and Reflections,
Walter de Gruyter, Berlin

Jackson, M., &Shenton, A. K. (2010). Independent learning areas and student learning. *Journal of Librarianship and Information Science*, 42, 215–223. 10.1177/0961000610380821.

Lefebvre, H. (1991[1974]). The Production of Space. Blackwell, Oxford.

Madge, O.L., & Robu, I. (2019). Medical university libraries in Romania - breaking with the past and turning towards the future*. Health Information & Libraries Journal, 36(1), 96–100.* doi:10.1111/hir.12245

Makori, E. (2009). Reinventing university libraries in Kenya*. Library Hi Tech News, 26(5/6), 10–13.* doi:10.1108/07419050910985264

Musangi , P.S., Odero, D., & Kwanya, T. (2019). Assessment of Reengineered Library Services and Spaces for Improved User Experience in Universities in Kenya. Journal of Arts and Humanities, 8(4), 19-29. doi:<http://dx.doi.org/10.18533/journal.v8i4.1622>

Musangi, P. S. (2015). Library 2.0 and the changing landscape of information services in university librariesin Kenya. *International Journal of Library and Information Science,7*(10), 183-187. doi:10.5897/ijlis2014.0492

Oblinger, D. G. (ed.) (2006). Learning Spaces. Educause. Available at: <http://www.educause.edu/learningspaces>

Otike, F. W. & Omboi, M. (2010). Challenges in establishing university libraries in Kenya. *International Journal of Library and Information Science* 2(8): 148-154.

Swamy, M.P., Kishore, A., HumayoonKabeer, P., Sanjo, J., Pillai, M., P.R., A., Robin, P., ArunV., R., Ashkar, K., Vimalkumar, V., Abraham, L.T., FaisalS., L., Issac, T.P., & Dominic, J. (2015). Paradigm Shift in Libraries*: A Festschrift to Rev. Fr. Jose Viruppel.*

Tevaniemi, J., Poutanen, J. & Lähdemäki, R. (2015). Library as a partner in co-designing learning spaces: a case study at Tampere University of Technology, Finland,*New Reviewof Academic Librarianship,* Vol. 21 No. 3, pp. 304-324.

Wakaruk, A. (2009). Dissecting the disconnect: Thinking about public space in university libraries. College & Research Libraries News, 70(1), 16-19. doi:<https://doi.org/10.5860/crln.70.1.8111>

Wanyonyi, M.S., Odini, C., & Sikolia, G.S. (2018). Effect of adequacy of information resources on user satisfaction at Pwani University Library. *Strategic Journal of Business & Change Management*, 5.