

# Towards User-Centred Framework for Reconfiguring Library Spaces in the Global South: Case of Kenyan Universities

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## ABSTRACT

In the global sphere, there is a trend that is gaining momentum in university libraries, and that is the shifting nature of the physical library spaces. The transition from print to electronic resources is among the issues influencing the shifting of library spaces. The change in pedagogy, where learning activities now lay emphasis on collaboration and group projects, necessitates new requirements in physical library spaces to rhyme with the new purposes and learning styles that better meet users' needs. Unfortunately, the available library space reconfiguring frameworks are inclined to the global north, which may not be suitable for the global south countries such as Kenya. It is on this strength that this paper seeks to explore how to attain user-centred university library spaces in the global south that meet the needs and wants of the users. The main objective of this paper is to propose a framework for reconfiguring university library spaces. The paper intended to achieve this by exploring suggestions on additional spaces and facilities to be included in the library, identifying attractive spaces and features of a library, exploring projections of the future outlook of the library, and examining elements of a desirable model space for university libraries in Kenya. The methodology employed a pragmatic research philosophy and multiple case studies. Data was collected from students, academic staff, librarians and university librarians. The qualitative data was thematically analysed, while the quantitative data used descriptive statistics. Based on the findings, the study proposed a user-centred framework for reconfiguring university library spaces in Kenya.

**Keywords:** Academic libraries, physical library spaces, reconfiguring library spaces, user-centred framework.

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## 1. INTRODUCTION

As university library users' needs continue to change, libraries have no option but to work towards addressing the changing users' needs. *Library space* is an area around which change revolves. This has led many university libraries to strive to reconfigure their spaces in order to meet the emerging user's expectations brought about by the advancement of information technology and improved higher education. In Kenya, available literature indicates that efforts to reconfigure library spaces to meet users' needs do not adequately involve the users (Ateka, 2018; Ellison, 2016; Musangi *et al.*, 2019; Wanyonyi *et al.*, 2018). Inevitably, this leads to remodelled library spaces that do not meet users' needs effectively. This implies that the resources spent on library remodelling projects may not achieve the desired outcomes.

Remodelling of library spaces is a relatively recent occurrence in Kenya. It began in the late 1980s and gathered momentum in the 1990s in developed countries (George *et al.*, 2015). Advances in Information and Communication Technology (ICT) and shifts in education systems have influenced user needs, making them dynamic and unpredictable. This has led many university libraries to reduce the space occupied by print collections. The challenge they now face is how to maximise these spaces to support learning in their parent institutions. One of the strategies is to reconfigure libraries as learning



spaces or educational and technology hubs to contribute effectively to the learning process. Scholars such as [Decker \(2020\)](#) emphasise the need for university libraries to engage their users comprehensively in their space planning projects. This is because feedback from the library users provides experiential and valuable insights into their needs. Other scholars ([Cobblah & Van Der Walt, 2016](#); [O'Sullivan & Partridge, 2016](#)) also opined that adopting user-centred approaches to managing the evolving user needs and expectations is one of the most effective strategies for managing constant change in university libraries.

Studies conducted in Kenya on remodelling university library spaces reveal inadequacies in the involvement of users in the projects. [Ateka \(2018\)](#) argued that the views of librarians were solicited more than those of students. She pointed out the need to involve students in library space reconfiguration projects. She further asserted that librarians can no longer assume they know and understand the users' needs. [Musangi et al. \(2019\)](#) advocated using technologies and innovations in priming library spaces for transformed user experiences. Therefore, for university libraries to succeed in reconfiguring virtual, physical or cultural spaces, users' feedback should be considered before embarking on the exercise to avoid ending up with unsuitable models.

## 2. LITERATURE REVIEW

Several considerations must be made when planning for library spaces in academic institutions. Central to these is understanding and predicting the needs of library users. Scholars have contributed literature on conceptual and practical guidelines for library space planning.

[Beard and Dale \(2010\)](#) provide five categories of user spaces based on their observation of higher education institutional libraries in the United Kingdom. The categories are short-stay individual information gathering, open-space flexible group work, individual silent study, small-group intentional collaborative work and structured teaching and learning. According to [Beard and Dale \(2010\)](#), each space is curved to support different pedagogical or learning focus.

[Rizzo \(2002\)](#) contributes to the guidelines by listing four types of space: highly active and engaging communal places; interactive, collaborative places for individual research and group work; quieter, less active places such as reading rooms, study rooms and out-of-the-way contemplative places for quiet reflection and deep thought. Rizzo emphasises the need to strike a balance between these spaces. The spaces should also match the demand at all times. [Rizzo \(2002\)](#) guideline is similar to the core areas outlined by [Choy and Goh \(2016\)](#). However, [Rizzo \(2002\)](#) takes it further by advising the librarians and architects to look into the sustainability of space. He argues that architects ought to help librarians create libraries that meet a group's changing functional requirements and its enduring social and emotional needs.

[Narum \(2013\)](#) proposes that the following four questions be considered for future learning space design: (1) What do we want our learners to become? (2) What experiences make that becoming happen? (3) What spaces enable those experiences? (4) How do we know questions in the context of shaping physical learning environments? Narum's questions are useful and worth consideration because they cut across the library services. The questions help the librarians to ask themselves about the benefits the users will reap by using the spaces. Focusing on 'becoming', it may be easier to see how investments in physical spaces make a difference in how users experience the library spaces. According to him, libraries ought to include flexible or multi-purpose spaces that can be reconfigured daily, weekly or monthly to suit several functions for efficient space utilisation. [Clugston \(2013\)](#) provides the interior designer's perspective on the design principles for new libraries and learning commons.

All the guidelines given by the above scholars are trying to suggest what they think might work well for the user. However, unless the users are involved in space planning, they will likely end up with spaces that do not meet their needs. It is important to engage the users of that particular library and include their views in the planning. Different users will have different views on what they need. With the users' feedback, it is easier to strike a balance guided by the core purpose of individual libraries. University libraries have a social responsibility to include all user groups, including persons with disabilities.

A study conducted in Iran by [Bodaghi and Zainab \(2013\)](#) tried to explore the views of architects and library users who had physical disabilities. The study concentrated on the accessibility of library buildings and equipment for 14 libraries, 7 public and 7 university libraries. A group of 13 architects were to observe and evaluate the 14 libraries. The study concluded that the library's accessibility was not rated as "good" by the architects or the users. Some of the issues highlighted by the users with disabilities that posed difficulties in accessing library services were the availability of parking spaces, ramps, and exclusive spaces. A similar study was conducted by [Phukubje and Ngoepe \(2017\)](#) in South Africa at the University of Limpopo. The study mainly assessed the convenience and accessibility of library services for users with disabilities. The study results indicated that the users were not satisfied

with the library services mainly because the library materials were in limited formats accessible by this category of users and restricted library opening hours.

### 3. RESEARCH METHODOLOGY

The objective of this paper was to propose a framework for reconfiguring university library spaces that meet the user needs. The paper employed a pragmatic research philosophy and multiple case studies. The respondents were university library users in Kenya from 6 participating universities (3 public and 3 private universities) purposefully selected to participate in the study based on their age (time they have been in existence). Data was collected from students and academic staff through online questionnaires, while for librarians and university librarians, it was through telephone call interviews. Of the 1467 questionnaires administered to university students, 785 were properly filled and returned. In addition, 863 academic staff out of 1288 participated in the study. The qualitative data was thematically analysed, while the quantitative data used descriptive statistics. Based on the findings, the study proposed a user-centred framework for reconfiguring university library spaces in Kenya.

### 4. RESULTS

The results of the paper on a user-centred framework for reconfiguring university library spaces in Kenya are presented as per the objectives. The objectives of this paper were to explore suggestions on additional spaces and facilities to be included in the library, identify attractive spaces and features of a library, explore projections of the future outlook of the library, and determine the ideal face of a modern library.

#### 4.1. Library Users' Suggestions on Additional Spaces and Facilities to be Included in the Library

Academic staff and students' opinions on additional library spaces and facilities presented in Fig. 1 show variations in academic staff and students' opinions on the library spaces and facilities to be added. The percentages of respondents against the ten proposed facilities and spaces differ across the two groups of users, suggesting that the priorities of the two user groups varied. The majority of academic staff proposed quiet study spaces (70.1%), computer workstations (65.5%), and power outlets/extension cables (61%). The students prioritised computer workstations (54.3%), power outlets/extension cables (53%), and group study space (50.3%). The least proposed additional facilities by both academic staff and students were spaces to eat and drink and opening hours (26.3% and 20.4%; 34.3% and 27.1% for each group, respectively).

Based on the percentage of the respondents suggesting additional facilitations, the results show that the academic staff had more concerns about the adequacy of the existing library space and facilities in academic libraries. Of the ten proposed additional facilities, seven were proposed by more than 50% of the academic staff compared to five proposed areas proposed by the students. Notably, except the most prioritised spaces and facilities by either group and despite the variations in percentages of library users making the proposals, the emphasis on these areas took a uniform pattern as seen in the curves in the line graph of both students and academic staff shown in Fig. 1. The only outlier was group study space which was suggested by half the number of the students (50.3%), a big contrast to the low numbers of the academic staff (31.6%) making the proposal.

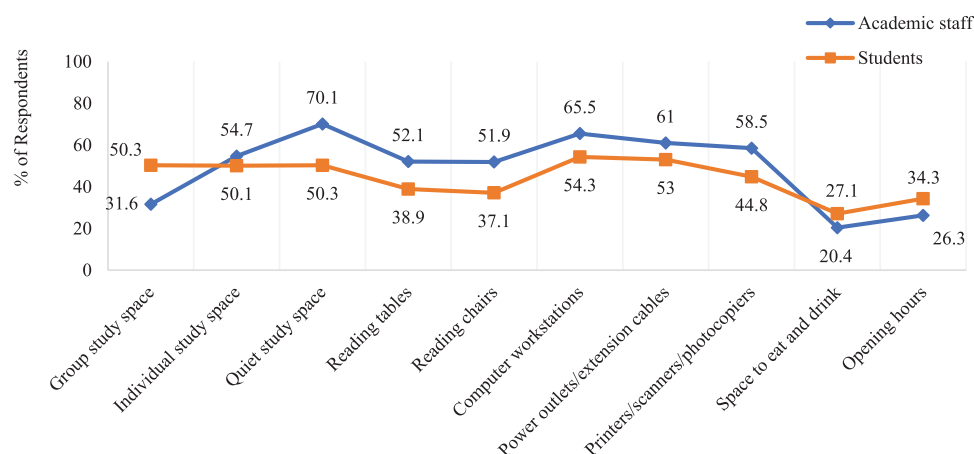


Fig. 1. A visualised comparison of library users' suggestions on additional library space and facilities.

TABLE I: LIBRARY USERS' PERCEPTION OF ATTRACTIVE FEATURES OF A LIBRARY

| Library attribute             | Academic staff |      | Students |      |
|-------------------------------|----------------|------|----------|------|
|                               | F              | %    | F        | %    |
| Library location              | 515            | 59.7 | 475      | 60.5 |
| Overall design of the library | 536            | 62.1 | 514      | 65.5 |
| Staff                         | 553            | 64.1 | 330      | 42.0 |
| Space                         | 500            | 57.9 | 476      | 60.6 |
| Furniture                     | 307            | 35.6 | 328      | 41.8 |
| Technology                    | 404            | 46.8 | 357      | 45.5 |
| Noise level                   | 294            | 34.1 | 378      | 48.2 |

#### 4.2. Attractive Space and Facilities Features of a Library

The library users were asked to indicate the attributes they liked in a university library. The results are shown in Table I. These results show a significant disparity between academic staff's and students' perception of attractive features of a library by rank. In descending order of ranking of what was perceived as most attractive, the findings show that the respondents only agreed on the third (library location) and fifth (technology) features. The two most significant features for the academic staff were supportive library staff (64.1%) and the overall design of the library (62.1%).

In contrast, for the students, it was the overall design of the library (65.5%) and space (65.5%). The least rated feature by both library user groups was the allowable noise level for academic staff (34.1%) and furniture for the students (41.8%). These findings underscore the need to establish specific space attributes users need before reconfiguring the spaces. The results also suggest that there may be a need to diversify the space features provided in the library to cater for the different groups of library users. This situation would be practically challenging.

##### 4.2.1. Projections Future Outlook of the Library

The study also investigated the academic staffs' and students' five-year projection of the library outlook. The results are shown in Table II. These results show that more than half of the academic staff and students had high expectations of future changes in resources and collections in the library and space allocation (more study areas and rooms, more seating, expanded spaces). However, both groups of library users were less enthusiastic ( $N < 50\%$ ) about quiet areas and enforcement of quietness, safety and security (CCTVs), services (customer service, greater availability of librarian, helpfulness), and extended hours of library operation. These findings suggest that library users were less uncertain about the many changes that are to be expected in relation to the future growth of university libraries in these areas.

#### 4.3. The Ideal Face of the Modern Library

Academic staff and students were asked to indicate their level of agreement with specific statements regarding the ideal face of the modern library in terms of space and facilities. The results, as shown in Fig. 2, indicate that the majority of the students (more than half of them in each case) strongly considered collaborative workspace, individual space, quiet space, comfortable, spacious and uncrowded space, computer workstations, comfortable furniture, and access to sockets for charging and using laptops as essential aspects of spaces and facilities of a modern library. Spaces for conversation, rest or lounge spaces, space where food is allowed/cafeteria, and space for taking a nap/sleep were considered by a few students ( $N = 35\%$  each) as essential space and facility requirements of a modern library.

TABLE II: LIBRARY USERS' FIVE-YEAR PRIORITY PROJECTIONS OF LIBRARY'S OUTLOOK

| Projected library looks                                                     | Academic staff |      | Students |      |
|-----------------------------------------------------------------------------|----------------|------|----------|------|
|                                                                             | F              | %    | F        | %    |
| Space (more study areas and rooms, more seating, expanded spaces)           | 439            | 50.9 | 492      | 62.7 |
| Resources, collections like print and e-books, journals                     | 725            | 84.0 | 527      | 67.1 |
| Quiet areas and enforcement of quietness                                    | 424            | 49.1 | 317      | 40.4 |
| Safety and security (CCTVs)                                                 | 340            | 39.4 | 233      | 29.7 |
| Services (customer service, greater availability of librarian, helpfulness) | 332            | 38.5 | 337      | 42.9 |
| Extended hours of library operation                                         | 161            | 18.7 | 263      | 33.5 |

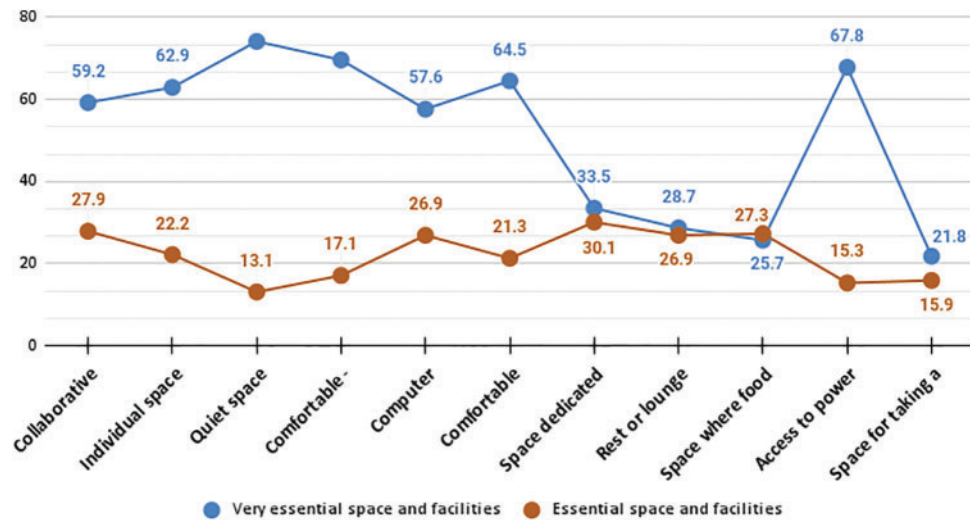


Fig. 2. Comparison of essential vs. very essential space and facilities of a modern library as perceived by the students.

Further, Fig. 2 shows a significant difference between those who considered the listed spaces and facilities essential in a modern library (Strongly agree) and those who regarded them as essential (Agree). Fig. 2 also shows that the two opinions of students appear to only fairly agree on rest or lounge spaces, spaces dedicated to conversation, use of cell phones, spaces where food is allowed, and spaces for taking a nap or sleep as spaces and facilities not very essential as a characteristic of a modern library.

Sharp differences in opinion ( $N > 50\%$  in each case) were concerned with quiet spaces, comfortable, spacious, and ample uncrowded spaces, as well as space for taking a nap or sleeping.

The librarians, however, held a contrary opinion to that of students on the provision of space for food and beverage in modern libraries (see Fig. 3). Traditionally, the policy of most libraries has been that no food or drink is allowed inside. The main reasons are the potential damage to the materials and the infestation of pests attracted by leftover crumbs and spills. However, the librarians noted that these prohibitive norms of traditional libraries do not characterise modern libraries. In a verbatim response, one librarian noted:

*“The modernisation of the library should regard the creation of spaces where users can take water, coffee, and snacks in contrast to the current system that limits drinking or eating in the library.”* (Librarian 2).

The librarians further asserted that modern libraries should consider offering spaces where library users can drink, eat food, and take mobile phone calls in the library. The paradoxical perception of the provision of space for food and beverage by a substantive number of students on this subject may be a result of the still-held prohibitive rules and regulations of library use that exist even today.

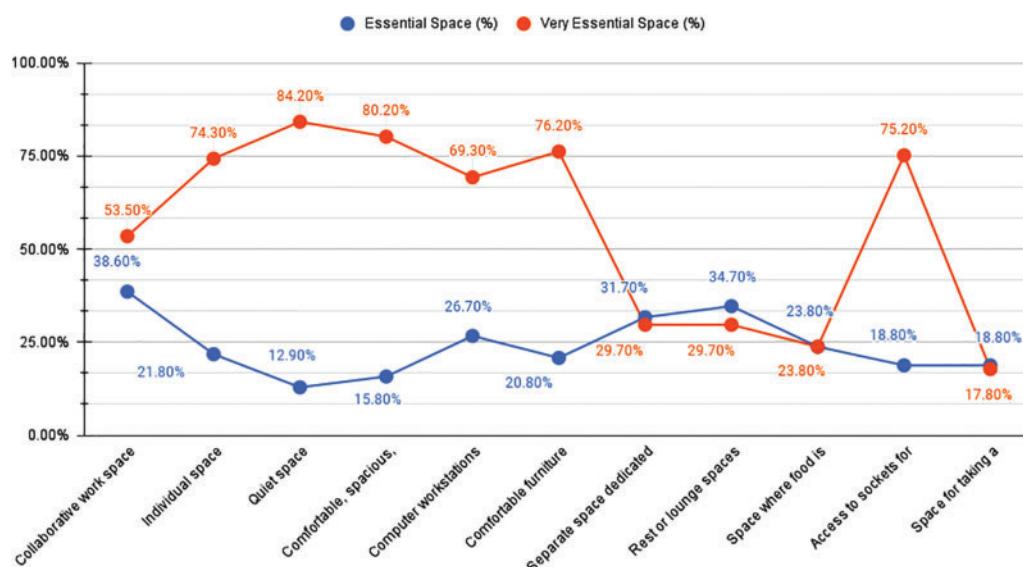


Fig. 3. Comparison of essential vs. very essential space and facilities of a modern library as perceived by the academic staff.

## 5. DISCUSSION

It, therefore, follows that offering a desirable space model for university libraries in Kenya requires the participation of the actual users.

The respondents were asked to give their opinions on additional library spaces and facilities. Based on the nine proposed library spaces and facilities, the results show that the priorities of the two user groups (academic staff and students) varied. Most academic staff proposed quiet study space (70.1%) as the priority, while students prioritised computer workstations (54.3%). Tenebe (2020) findings of a study conducted at the National Open University of Nigeria show similar results to those of the current study. In that study, 93.2% of the students preferred to have a computer on their reading tables. In the same study, Tenebe (2020), when students were asked what they would like improved in the library, most of them complained about the computers and internet service. When asked to sketch their ideal

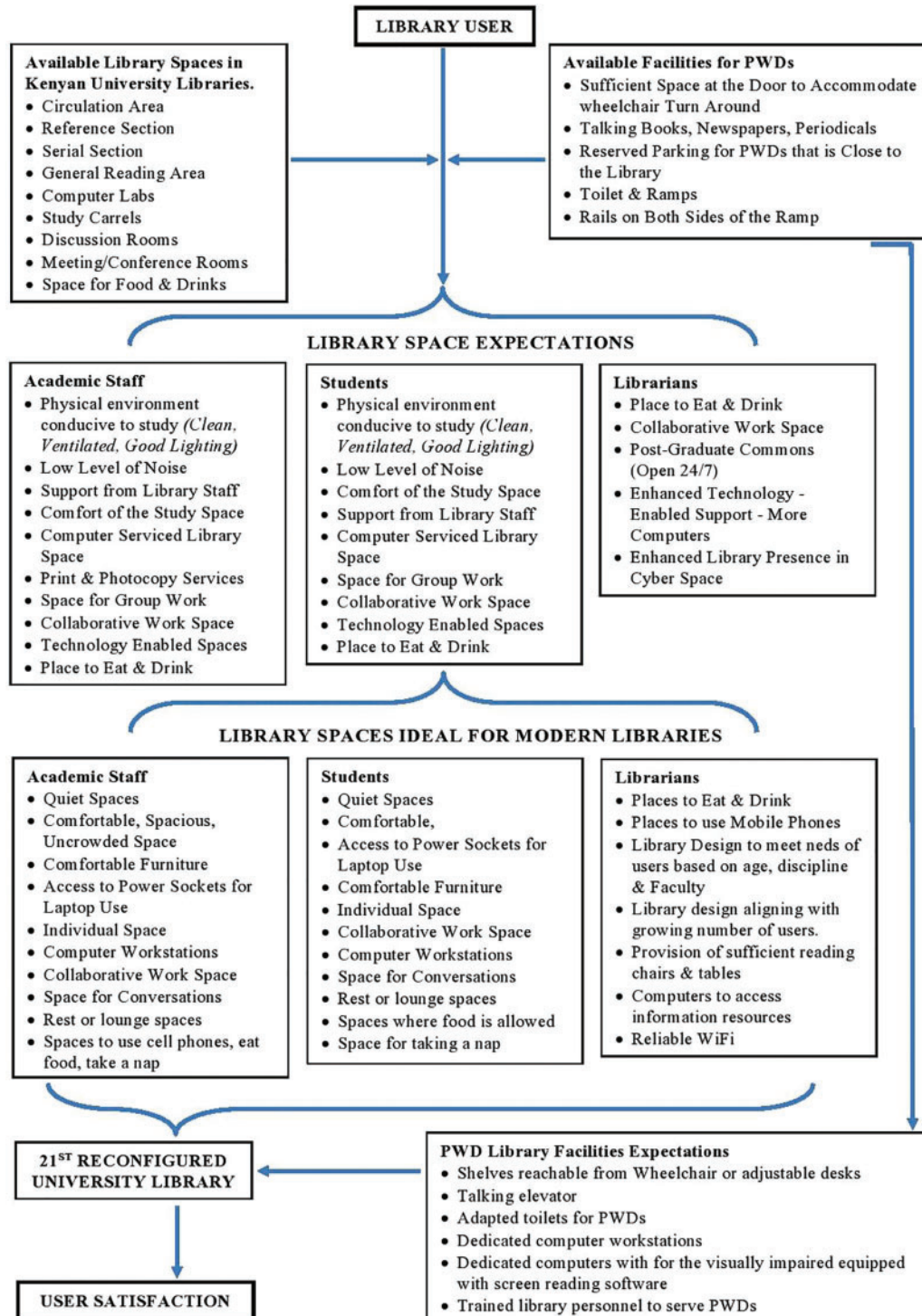


Fig. 4. Proposed user-centred framework for reconfiguring university library spaces in Kenya in the 21<sup>st</sup> century.

library space, most students did not answer, but the respondents who answered drew computers, tables and chairs, shelves and windows. This is in contrast with [Mangrum and Foster \(2020\)](#) findings of a library in the Southeastern United States, where students were asked to choose which types of library spaces would enhance the use of the library from a list of seven possible enhancements. Soundproofed group study rooms were prioritised. In the same study, students were asked to rank five different spaces according to their preference. Findings revealed further that students prefer a silent study environment. This could imply that the library in Southeastern had some level of unwelcome noise, and users would like soundproof spaces to be available to those who wish to have discussions. In the same study, when faculty/staff were asked which specific enhancements they believed would be beneficial for students' use of current spaces in the library, the top-rated choice was additional spaces for collaborative learning (22%,  $n = 19$ ) and the lowest-rated choice was additional quiet study spaces (9%,  $n = 8$ ). This shows the varied needs and preferences of users in library space.

In the Kenyan context, the prioritising of computer workstations by students appears to affirm previous studies in Kenya that allude Kenya could be more into changing with the advancement in technology than in library space needs of users. For instance, [Kwanya et al. \(2015\)](#) showed progress in technologies used in Kenyan libraries, which means the situation may have improved further. [Nakitare et al. \(2020\)](#) confirm the progress by saying that most university library users in Kenya are digitally independent and access library resources remotely.

When respondents in the current study were asked about the space to be minimised in the library, most of the respondents (academic staff and students) believed that noise in the library should be minimised. This implies that noise remains an unwelcome feature in university libraries in Kenya. Further research may be required to determine whether the noise could be a nuisance due to the lack of soundproof spaces.

The overall design of the library was chosen as the first attractive space feature by students, followed by spaces. In contrast, academic staff chose the overall design of the library as a second choice. The library's design is about the spaces, just as [Garoufali and Garoufallou \(2022\)](#) emphasise that one of the key points of a successful library transformation is the appropriate design of physical space. This shows that the two user groups value the physical spaces provided in the libraries. Additionally, the respondents were asked to give their opinions about the space occupied by the print collection. Most of the respondents, academic staff and students supported the reduction of print materials to create more study spaces. The increasing number of students joining the university results in more library users, so the availability of adequate library spaces for learning is essential. Adequate space availability significantly predicted general user satisfaction with library spaces.

On a five-year projection of the future library outlook, most respondents in both user groups (academic staff and students) had high expectations of future changes regarding resources and collections in the library space allocation. They expected more study areas, rooms, seating space, and expanded spaces.

## 6. CONCLUSION

Concerning proposed elements of a desirable model space for universities, most academic staff proposed quiet study space, computer workstations, power outlets and group study in that order. Students proposed computer workstations, power outlets, and group work studies in that order. The most attractive library feature for the academic staff was the supportive library staff, while it was the furniture for the students. It was noted that there was a need to diversify the space features provided in the libraries to cater to the different groups of library users. In the five-year projection, most of the academic staff and students had high expectations of future changes (more study areas and rooms, more seating and expanded spaces).

This study concluded that the university library is a social space that is seen both as a physical and virtual library.

On collecting feedback from various categories of library users in university libraries in Kenya, coupled with insights from Henri Lefebvre's theory, the study recommends elements of a model space for university libraries in Kenya, as illustrated in [Fig. 4](#). The model begins by establishing the existing physical library attributes in Kenyan universities. Secondly, the model puts together the library space expectations of different categories of university library users (academic staff, students, persons with disabilities, librarians). Thirdly, the model incorporates library spaces and facilities suggested by users' categories, giving an ideal modern library. Several library spaces and facilities suggested by users as ideal for a modern library overlap with several of them included in the users' library space expectations. The researcher views the model through the lens of Henri Lefebvre's theory and insights that space is a social product. Therefore, the model includes spaces and facilities that encourage library spaces to be utilised for networking and collaborations. In addition, library space reconfigurations ought to

be done to satisfy the needs of library users. The user is at the centre of all library space and facilities transformations.

The proposed user-centred framework for reconfiguring university library spaces in Kenya shows the types of library spaces available in the university libraries in the country. The University libraries serve different categories of users, and the library spaces provided in the universities should be inclusive to accommodate all the categories of users.

Various categories of library users have varied library space expectations that depend on their needs, and the user groups prioritise the spaces based on their relevance in supporting academic and research work. The framework shows a close similarity in the prioritisation of library spaces by the library users. The model also shows various library spaces and facilities considered relevant to modern libraries by the various categories of users. Similarly, the user groups show that they agree largely on the prioritisation of the spaces and facilities relevant to modern libraries. In a situation where the library users' library space expectations are unmet, the libraries should consider reconfiguring the spaces to meet the users' needs and factor in the modern trends in library spaces that support academic and research work. The availability of adequate and relevant library spaces and facilities leads to library users' satisfaction with library spaces and facilities.

#### CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

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