

Library usage by DDUH students and staff

Eleni Papachristoforou, Ayan Ade, Nadia Ebrahimi, Michael Mc Grath, Remington Manchester, Niamh Reilly, Rónán O'Reilly, Stella Sta Maria, Jonathan Lewney, Maria Van Harten

Trinity College Dublin, Dublin, Ireland

Abstract

Aim: to explore the accessibility, functionality, and effectiveness of Dublin Dental University Hospital (DDUH) library services for students and staff.

Methods: a validated survey assessed satisfaction with library hours, study spaces, resources, online databases, and preferred study environments among students (dental nursing, technology, hygiene, science) and staff.

Results: of 217 respondents (86.2% students, mostly dental science), 68.7% were satisfied with library hours, though undergraduates favored extended and weekend access ($p=0.015$). Online database difficulties affected 32.3%, highest among dental technology students (57.9%, $p=0.025$). Study spaces were most valued, librarian services least. Most requested additional quiet, group, and lounge areas. Despite alternatives, 68.7% considered DDUH Library optimal.

Conclusions: extended hours, improved study spaces, digital training, and promoting librarian services are essential to enhance accessibility and meet evolving needs.

Key words: libraries; students, dental; education, dental.

Introduction

A library is a vital physical asset in higher education (1, 2). Over time, academic libraries have preserved their core mission of supporting curriculum and research. While the fundamental goal of libraries – providing access to knowledge and fostering intellectual development – remains unchanged, the ways in which students and faculty engage with libraries have evolved considerably (3).

Traditionally libraries served as places for studying, storing books and offering access to printed resources (3, 4). Through the years, their role has expanded from being simple storage spaces to dynamic learning centers that actively enhance the academic experience of users (3). Today libraries serve as multi-functional spaces designed to support a wide range of learning and social activities. Students use libraries for individual study, reading, conducting research, using computers and engaging in group projects (5). Beyond their academic functions, libraries also serve as social and collaborative spaces where students and staff can meet, share ideas, engage in group learning experiences and unwind from the intense demands of higher education (2, 6, 7).

As demand for diverse learning environments has increased, libraries have adapted their spaces to accommodate different study preferences. By ensuring effective utilisation, academic libraries directly impact students' educational development and institutional success (2). The design of learning spaces in libraries plays a crucial role in student performance (4). Research shows that the physical study environment significantly influences learning outcomes. By providing spaces that support focused work, collaboration, and even relaxation, libraries enhance student learning engagement and academic achievement (3, 8).

The rapid technological advancement has significantly transformed libraries, reshaping how users' access and interact with the information (2). Digital libraries and automated services have made vast amounts of academic resources available online, reducing the dependency on physical collections. Digital libraries offer numerous advantages, including searchability, frequent updates, enhanced media integration and the ability to store and share extensive amounts of information across multiple platforms (9).

However, despite the benefits and convenience of research and learning, challenges remain. Many users,

Corresponding author: Eleni Papachristoforou, Trinity College Dublin, College Green, Dublin 2, Ireland.
E-mail: papachre@tcd.ie

particularly faculty members, struggle to navigate the growing digital landscape and often feel overwhelmed by the multitude of online options. Additionally, research suggests that a significant number of students still prefer printed books over digital versions, citing difficulties with prolonged screen reading and lack of engagement with e-books (9). To remain relevant in the digital age, libraries must integrate modern technology while preserving the traditional study environment that many students still value (5).

Despite the growing importance of libraries, the usage of library services in healthcare professional education remains an understudied topic with limited literature available. With advancements in technology and increased accessibility of resources, questions persist: who utilises libraries, what resources are most valued, when and where are they accessed, why do they remain essential, and how do they support academic success in healthcare education today?

This study aims to assess the library usage patterns among the Dublin Dental University Hospital (DDUH) students & staff, identify key trends and provide insights into potential improvements. By conducting a detailed survey, the research will gather data on usage patterns, resource preferences and the perceived value of different library services as well as the need for additional services.

For this study it was hypothesised that while the majority of library users at DDUH would be generally satisfied with the services provided, there would be a demand for extended opening hours, particularly on weekends and during exam periods, as well as a need for additional study spaces to better accommodate users.

It is the hope that the findings will contribute to other feedback for enhancing the library's role in supporting both learning and professional development within the DDUH community. This research will contribute to the ongoing discussion about the evolving role of libraries in specialised education fields like dentistry.

Materials and methods

The study was conducted at DDUH following ethical approval from the DDUH Research Ethics Committee. Data collection took place over a two-week period in January 2025. Eligible participants included students and staff from the dental science, nursing, hygiene, and technology disciplines at Trinity College Dublin. A survey was designed to assess library usage at

DDUH, focusing on key themes such as user demographics, resource accessibility, usage patterns, and service perceptions. The survey consisted of two consent questions, four demographic questions, and eighteen questions assessing library usage (*Appendix A available online as Supplementary Material*).

To ensure clarity and relevance, the survey was reviewed by researchers, primary supervisors, and a statistician. A pilot test was conducted with 26 participants, whose feedback was used to refine the final version. Those involved in the pilot testing did not participate in the main study.

The final survey was distributed electronically via email, with the dental school manager acting as the gatekeeper. A participation information leaflet was provided to obtain informed consent and to ensure compliance with GDPR standards. Individuals under 18 years of age were excluded from the survey. Additionally, with DDUH approval, participants were invited to access the survey through a Quick Response (QR) code shared at the beginning of lectures. The survey was anonymous, and participation was entirely voluntary, with no connection to lectures, coursework, or extra credit opportunities. On average, completing the survey took approximately 10-15 minutes. Participants were allowed to complete the survey only once.

The raw survey data was generated in Qualtrics and exported to Excel for variable manipulation and further analysis. Statistical analysis was conducted using IPC SPSS. Demographic data was summarised using frequencies and percentages. Survey responses were analysed using the Pearson Chi-Square test to assess associations between categorical variables, identify patterns, and test hypotheses. Cross tabulation was carried out to assess correlations between staff & undergraduate students as well as across different disciplines and years. Statistical significance was determined using p-values, with results considered significant at $p < 0.05$.

Results

Participant demographics

A total of 217 participants completed the survey, comprising of 187 students (86.2%) and 30 staff members (13.8%) (*Table 1*). The majority of student respondents were enrolled in the dental science program (76.5%), followed by dental technology (10.2%). The largest proportion of students were in Year 2 (33.2%), followed by

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Question	Variable	Frequency	Percent (%)
<i>Are you a student or a staff member?</i>	Undergraduate student	187	86.2
	Staff/Postgraduate	30	13.8
	Total	217	100
<i>What course are you currently enrolled in?</i>	Dental Science	143	76.5
	Dental Technology	19	10.2
	Dental Hygiene	10	5.3
	Dental Nursing	15	8.0
	Total	187	100
<i>What is your current year of study?</i>	Year 1	46	24.6
	Year 2	62	33.2
	Year 3	23	12.3
	Year 4	35	18.7
	Year 5	21	11.2
	Total	186	100

Table 1. Demographics of participants.

Year 1 (24.6%) and Year 4 (18.7%), while Year 5 students represented the smallest group (11.2%).

DDUH Library hours

The survey data showed that while the majority of students (68.7%) were satisfied with the library's opening hours, there was significant demand for extended access (Table 2). Nearly half (48.8%) of respondents would prefer longer weekday hours and even greater proportion (57.1%) would like weekend access. The

strongest preference was for extended hours during exam period (70%).

Data on the preference for weekend access to the DDUH library by student and staff status revealed that 60.4% of undergraduate students preferred weekend access. In contrast, staff and postgraduate students showed less interest, with only 36.7% in favor and 63.3% opposed. There was a significant difference in weekend access preferences between students and staff ($p = 0.015$).

Question	Variable	Frequency	Percent (%)
<i>I am satisfied with the library's opening hours</i>	Agree	149	68.7
	Neither agree nor disagree	30	13.8
	Disagree	38	17.5
<i>Would you prefer longer weekday hour access to DDUH library?</i>	Yes	106	48.8
	No	111	51.2
<i>Would you prefer weekend access to the DDUH library?</i>	Yes	124	57.1
	No	93	42.9
<i>Would you prefer extended hours during exam times to the DDUH library?</i>	Yes	152	70
	No	64	30

Table 2. DDUH Library Hours- Satisfaction & Preferences (n=217).

Challenges and preferences of Library use

A majority of users (78.3%) reported no difficulty in finding resources, though a notable 21.7% did face challenges (Table 3). Nearly half of the respondents (48.4%) found it difficult to secure a study space in the DDUH library. Accessing online databases was a challenge for 32.3% of users, while 67.7% reported no difficulty. Interestingly, a strong preference for

tal science (28%) and dental nursing (13.3%) students. Students' ability to access online databases varied significantly by discipline ($p = 0.025$).

Library services

Study spaces were the most valued library service (mean rank: 2.01), followed closely by general computer use and printing (2.99) (Table 5). In contrast, computers for clinical use (3.75), lounge/relaxation

Question	Variable	Frequency	Percent (%)
Have you faced difficulty finding resources while using the library?	Yes	47	21.7
	No	170	78.3
Do you find it difficult to find a place to study in the DDUH library?	Yes	105	48.4
	No	112	51.6
Do you find it difficult to access online databases through the DDUH website?	Yes	70	32.3
	No	147	67.7
Do you prefer the use of library's online resources or visit in person?	Online	155	71.4
	In-Person	62	28.6

Table 3. Challenges and preferences in Library use (n=217).

Course enrolled in	Yes (%)	NO (%)
Dental Science	40 (28%)	103 (72%)
Dental Technology	11 (57.9%)	8 (42.1%)
Dental Hygiene	3 (30%)	7 (70%)
Dental Nursing	2 (13.3%)	13 (86.7%)
Total	56 (29.9%)	131 (70.1%)

Table 4. Accessibility challenges for online databases by course enrollment

online resources was observed, with 71.4% favoring digital access over in-person visits (28.6%). The majority of users (70.1%) reported no accessibility challenges with online resources (Table 4). Dental technology students faced the most difficulties (57.9%), followed by dental hygiene (30%), den-

tal science (28%) and dental nursing (13.3%) students. Students' ability to access online databases varied significantly by discipline ($p = 0.025$).

Enhanced Library facilities

Majority of respondents believed there was a need for additional library facilities (Table 6). More quiet study

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Question	Variable	Mean Rank: 1-most useful 6-least useful
<i>What library service do you find the most useful?</i>	Study Spaces	2.01
	General Computer Use & Printing	2.99
	Computers for Clinical Use (Salud)	3.75
	Lounge or Relaxation areas	3.80
	Access to Research Databases	3.93
	Librarian Services	4.52
	Total responses	197

Table 5. *Usefulness of services available.*

areas were supported by 59% of respondents, while 41% felt the current spaces were sufficient. Similarly, 56.2% of respondents expressed the need for more group study areas, compared to 43.8% who did not. Opinions were nearly evenly split on the need for additional computer and printing areas, with 49.3% in

reported by 43.8% of respondents (Table 7). 36.9% used the library less than once a week, while 17.1% visited 3-4 times a week. Only a small percentage (2.3%) used the library five or more times per week.

Trinity College Libraries

The DDUH Library was the most popular study space

Question	Variable	Frequency	Percent (%)
<i>Do you believe there needs to be more quiet study areas in DDUH library?</i>	Yes	128	59
	No	89	41
<i>Do you believe there should be more group study areas in the DDUH library?</i>	Yes	122	56.2
	No	95	43.8
<i>Do you believe more computer & printing areas should be available in DDUH library?</i>	Yes	107	49.3
	No	110	50.7
<i>Do you believe that more lounge & relaxation areas should be available in the DDUH library?</i>	Yes	127	58.5
	No	90	41.5

Table 6. *Need for Enhanced Library Facilities (n=217).*

favor and 50.7% against. Additionally, 58.5% of respondents supported the addition of more lounge and relaxation areas, while 41.5% did not see the need for it.

Frequency of DDUH library use

The most common usage pattern was 1-2 times a week,

at Trinity College Dublin, chosen by 38.7% of students – significantly exceeding Hamilton Library (16.1%) and Kinsella Hall/Usher Library (18%). Notably, 12.9% of students did not use the library at all. When their preferred library was unavailable, students tended to shift

Question	Variable	Frequency	Percent (%)
<i>How often do you use the DDUH library?</i>	Less than once a week	80	36.9
	1-2 times a week	95	43.8
	3-4 times a week	37	17.1
	5 or more times a week	5	2.3

Table 7. *Frequency of DDUH Library Use (n=217).*

between Hamilton (24.3%), DDUH (23.8%), and Kinsella Hall/Usher (21.7%). Additionally, 68.7% of students considered DDUH Library an ideal study space.

Recommendations
Only a few responses were collected from the qualitative question on suggestions for improving library services. The feedback did not provide any new insights but instead reinforced the findings from the other questions.

Question	Variable	Frequency	Percent (%)
<i>Where do you go most often to study at Trinity College Dublin?</i>	DDUH Library	84	38.7
	Hamilton Library	35	16.1
	Eavan Boland Library	23	10.6
	Lecky Library	8	3.7
	Kinsella Hall/Usher Library	39	18
	I do not go to the Library	28	12.9
	Total	217	100
<i>If the library of your choice is closed, where would you most likely go instead?</i>	DDUH Library	45	23.8
	Hamilton Library	46	24.3
	Eavan Boland Library	33	17.5
	Lecky Library	18	9.5
	Kinsella Hall/Usher Library	41	21.7
	1937 Postgraduate Reading Room	6	3.2
	Total	189	100
<i>Do you consider the DDUH as an ideal place of studying?</i>	Yes	149	68.7
	No	68	31.3
	Total	217	100

Table 8. *Trinity College Dublin Libraries.*

Discussion and Conclusions

Demographics

The higher percentage of Year 2 students may be attributed to the program structure, as dental technology is a three-year course, while dental nursing and dental hygiene are both two-year programs. The lower response rate among Year 5 students may be due to their impending graduation from the DDUH, leading to reduced interest in potential improvements or changes that could arise as a result of the survey. Similarly, a study conducted by Scoulas et al. (10) also reported low participation rates from final years (10).

Library hours

The increased demand for greater accessibility during high-demand periods, such as exams and weekends, aligns with our initial hypothesis. Supporting this, Scoulas et al. (10) highlighted that studying for exams is among the top three reasons students use the library (10). Regarding extended weekend access to the DDUH library, responses from undergraduate students differed significantly from those of staff and postgraduates. A higher percentage of undergraduate students supported weekend access, compared to staff and postgraduates. This disparity may be attributed to differences in responsibilities and study needs between the groups. Staff and postgraduates are more likely to have family commitments, such as childcare, which may limit their interest for library access on weekends. Similarly, Palanisamy et al. (11) found that 51% of staff members did not visit the library due to insufficient time, whereas only 26% of students cited a lack of time specifically for visiting the library (11). Interestingly, a study by Washington-Hoagland and Clougherty (12) highlights that faculty and staff often underutilise library resources and services, not only due to time constraints but also due to a lack of awareness about their availability (12).

Staff members generally do not require extended study hours since their responsibilities do not necessarily demand intensive study time. In contrast, undergraduate students, particularly those preparing for exams or coursework, often need more focused study time, making weekend access crucial. This is especially true for international students and those in shared accommodations, where noise levels can hinder concentration. The library offers a quiet, structured environment not always available at home. Additionally, as a social hub,

it encourages peer interaction and collaboration, (5) and extended weekend access would enhance these opportunities, making the library a more inclusive space for student engagement.

Challenges using online databases

Among all disciplines, dental technology students had the highest proportion of respondents reporting challenges in accessing online databases. This disparity was unexpected, given the similar framework across the courses at DDUH. One possible explanation is a gap in support or training for dental technology students in using online resources. These students may have less exposure to research tools and databases compared to their peers, as their curriculum likely emphasises clinical and practical skills over research and database navigation.

Usefulness of services available

Study spaces were regarded as one of the most valuable library services, emphasising students' strong preference for a quiet and structured study environment. This underscores the continued significance of physical library spaces, even in an era of digital transformation. As Aduba et al. (13) confirms that despite technological advancements, the physical spaces of libraries remain essential in academic settings (13). These findings align with existing literature, which highlights the necessity of flexible and well-equipped learning environments to support academic success (3).

Interestingly, librarian services ranked the lowest in perceived usefulness, suggesting that students may either be unaware of the full range of support librarians provide or may not frequently seek their assistance. Research indicates that while students generally acknowledge librarians' expertise, particularly in relation to information resources, many still hold outdated perceptions of their roles and responsibilities. These misconceptions can significantly impact students' willingness to seek help from librarians. A study showed that only 25% of students reported consulting a librarian multiple times a year, while 43% stated they never sought assistance (14).

Study limitations

While this study provides valuable insights into library usage and student preferences at the DDUH, it has several limitations. First, the sample size, though sub-

stantial, may not be fully representative of the entire student and staff population, as participation was voluntary and could be biased toward those with stronger opinions on library services. The study also relied on self-reported data, which may introduce response bias, as participants may have overestimated or underestimated their library usage and difficulties faced. Furthermore, while the study identifies key trends, it does not explore in-depth reasons behind students' and staff members' preferences, requiring further qualitative research to gain a more refined understanding.

Recommendations

Based on the findings, several recommendations can be made to enhance library services at the DDUH. Given the strong demand for extended access, especially during exams and weekends, increasing library hours could better support students' academic needs. Additionally, efforts could be made to improve study space availability, including expanding quiet study areas and group study rooms. Enhancing digital resource accessibility, particularly for dental technology students, through targeted training and support sessions could also address reported challenges. To maximise the utility of librarian services, awareness campaigns should be implemented to educate students on the range of support available, encouraging greater engagement.

However, the feasibility of these recommendations depends on cost and resource availability. Any changes should be carefully evaluated to ensure they are financially viable and do not strain existing budgets. Additionally, pilot programs should be implemented to assess whether students genuinely utilise enhanced services rather than requesting them out of preference without actual need. For instance, a month-long trial at the University of Pittsburgh in 2011, during which the library operated on an extended schedule, found that usage during the additional hours remained relatively low (15). Collecting feedback and utilisation data from trial periods will help determine which improvements are most beneficial and worth long-term investment.

In summary, the major takeaway from this study is that while the DDUH Library is highly valued, addressing accessibility issues—both physical and digital—may be essential in ensuring it continues to meet the evolving needs of students and staff. By integrating modern

technology with traditional academic support, the library can further enhance its role in fostering academic excellence within the DDUH community.

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