

From Accessibility Provision to Quality Access: Service-route translation for disabled users in academic libraries

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Abstract

Academic library accessibility depends on how institutional provision supports disabled users across connected service encounters and academic tasks. This qualitative policy and document analysis evaluates 12 benchmark, institutional, and library documents concerning Perpustakaan Sultanah Bahiyah, Universiti Utara Malaysia (PSB/UUM), through a SERVQUAL-informed lens. Findings identify extensive tangible provision and weaker specification of service coordination, responsibility transfer, and follow-up after initial contact. The Provision-to-Participation Quality Access Framework links documented provision with functional access across academic tasks and frames autonomy, confidence, dignity, continuity, and belonging as quality-of-life implications requiring user-based assessment.

Keywords: Disabled users; Quality access; Quality of life; Service-route translation

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1.0 Introduction

Accessibility in academic libraries is tested at service handoffs, where support responsibility must persist as users move between service points. Academic library access for disabled users encompasses physical spaces, information resources, digital systems, assistive technologies, and staff-mediated services. Participation unfolds through navigation, information retrieval, technology operation, assistance, borrowing, study-space engagement, and task completion. Quality access captures whether these provisions function consistently across those tasks. Yusof et al. (2020) document barriers in Malaysian higher education involving facilities, services, logistics, awareness, and policy. At the academic-library level, Bodaghi et al. (2014) describe student volunteers as academic helpers and social connectors for visually impaired students. Studies of academic libraries further document disparities in assistive-technology provision, staff support, and service functionality in disabled users' library experiences (Hunt et al., 2024; Potnis & Mallary, 2021). The literature leaves unresolved how libraries coordinate responsibility and support after users encounter an access barrier.

Rights-based and national frameworks position accessibility as an educational obligation grounded in dignity, equality, and participation. The United Nations Convention on the Rights of Persons with Disabilities establishes accessibility as a condition of equal

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participation and toward better quality of life. Malaysia's Persons with Disabilities Act 2008 and Ministry of Higher Education Malaysia (MOHE) guideline extend this obligation across higher education for persons with disabilities, locally referred to as Orang Kurang Upaya (OKU) (Government of Malaysia, 2008; MOHE, 2019; United Nations, 2006). Academic libraries operationalise these obligations through coordinated spaces, digital systems, assistive resources, staff roles, service procedures, and links to institutional disability support.

The distinction between accessibility provision and quality access centres on operational continuity: accessibility provision establishes the institutional availability of spaces, technologies, resources, and support, while quality access captures their functional coherence across academic tasks and service encounters. Assistive technologies expose this distinction through the requirement for user awareness, staff capability, guidance, and service support (Potnis & Mallary, 2021). Comparable continuity governs navigation, digital access, information retrieval, referral, and staff assistance, positioning service-route translation as the process through which coordinated procedures, responsibilities, support, and response convert documented provision into functional academic access.

Perpustakaan Sultanah Bahiyah (PSB), Universiti Utara Malaysia (UUM), anchors the documentary evaluation of this translation. PSB publicly documents physical and online accessibility, staff assistance, accessible facilities, spatial arrangements, and World Wide Web Consortium (W3C) accessibility tools (PSB, n.d.-a, n.d.-b). The evaluation assesses whether these documented provisions articulate service responsibilities, response procedures, referral continuity, digital usability, privacy, feedback, and service recovery with equivalent operational clarity, emphasising the interface between resource availability and functional academic access.

Qualitative policy and document analysis assesses how documented accessibility provision translates into quality access for disabled academic library users. Three objectives structure the analysis: (1) to identify accessibility provisions documented across the PSB/UUM service environment, (2) to evaluate their correspondence with SERVQUAL-informed service-quality conditions supporting quality access across academic tasks, and (3) to identify documentary strengths and under-specified service-route conditions associated with academic participation and quality-of-life implications. This analytical focus strengthens academic library accessibility research by shifting evaluation from documented provision toward the service-route conditions that sustain access across academic tasks. Identifying where documentary specification remains strong and where operational detail weakens after initial contact provides a structured basis for institutional review, service evaluation, and subsequent user-based assessment. The resulting framework connects accessibility provision, service quality, academic participation, and quality-of-life implications within a single analytical pathway.

2.0 Literature Review

Disability-access literature identifies institutional and user-level conditions of inclusion; service-quality research clarifies how libraries organise support across service encounters; and quality-of-life research connects these conditions with participation and student well-being. This review integrates these strands to frame the relationship between documented accessibility provision, functional access across academic tasks, and quality-of-life implications.

2.1 Disabled users and academic library accessibility

Rights-based and professional frameworks establish accessibility across built environments, information resources, technologies, communication, and services (International Federation of Library Associations and Institutions [IFLA], 2024; United Nations, 2006). Evaluation therefore concerns the cumulative functioning of access points across navigation, information retrieval, accessible formats, assistive support, study environments, and assistance channels. Malaysian higher-education research documents barriers involving facilities, services, logistics, awareness, and policy (Yusof et al., 2020). Bodaghi et al. (2014) describe student volunteers as academic helpers and social connectors for visually impaired students.

Hunt et al. (2024) map disability-related barriers across library and broader college experiences, and Potnis and Mallary (2021) identify a mismatch between assistive-technology provision and operational support. Johari et al. (2026) conceptualise meaningful access as alignment among institutional conditions, service practices, and user experience.

2.2 Service quality and quality of access

Parasuraman et al. (1988) developed SERVQUAL around five dimensions of service quality: tangibles, reliability, responsiveness, assurance, and empathy. For disability access, tangibles encompass physical, technological, and digital resources; reliability concerns procedural consistency, referral continuity, maintenance, and predictable assistance; responsiveness addresses timely support across academic tasks; assurance centres on staff competence, role clarity, communication, coordination, and trust; and empathy incorporates privacy, choice, individual preference, and respectful interaction (Cook & Heath, 2001; Parasuraman et al., 1988; Thompson et al., 2000). This translation positions SERVQUAL as a lens for assessing accessibility across academic tasks.

Assistive technology demonstrates the need to evaluate service attributes as an interconnected configuration. Potnis and Mallary (2021) identify user awareness, staff competence, task compatibility, guidance, and operational support as conditions for functional access. Similar dependencies shape navigation, information retrieval, digital access, staff assistance, and referral pathways. Quality access locates service continuity where facilities, technologies, procedures, staff roles, referral pathways, and respectful interaction converge.

2.3 Quality of life in academic library spaces

Quality of life in academic library environments depends on access conditions that sustain participation, independence, confidence, dignity, continuity, and belonging. Rights-based frameworks link inclusive education to dignity, equality, and participation (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2015; United Nations, 2006). Aliedan et al. (2023) associate support from

university disability services, family, and friends with disabled students' quality of life and identify physical self-esteem as a mediator. Vaccaro et al. (2015) associate belonging with self-advocacy, supportive relationships, academic success, and persistence.

Academic libraries shape these conditions through resources, procedures, technologies, staff interaction, and service coordination. Bodaghi et al. (2016) link supportive librarian communication with help-seeking, inclusion, and belonging among visually impaired students, and associate communication failures with uncertainty and reluctance to seek assistance. Reed (2025) locates belonging in everyday acceptance, respect, and support. Fragmented accessibility arrangements intensify reliance on intermediaries and restrict participation alongside formal inclusion commitments (Dreyer, 2021; Tannenbaum-Baruchi et al., 2025). This documentary analysis traces how institutions articulate these service conditions.

3.0 Methodology

The study applied qualitative policy and document analysis to evaluate how documented accessibility provision translates into quality access for disabled academic library users. Document analysis supports systematic interpretation of institutional commitments, service expectations, and publicly articulated service arrangements (Bowen, 2009). The corpus comprised 12 publicly available documents and web resources: six benchmark sources, three PSB sources, two UUM sources, and one Malaysian academic-library comparator. Sources addressed disability access, inclusive higher education, library services, digital accessibility, assistive technologies, staff assistance, coordination, and academic participation. Promotional material without analytical relevance was excluded.

Table 1. Documentary corpus, selection basis, and analytical function

Source category	Document or web source	Basis for selection	Function in analysis
Benchmark	<i>Persons with Disabilities Act 2008 (Act 685)</i> — Government of Malaysia (2008)	National disability rights and accessibility obligations	Legal accessibility benchmark
Benchmark	<i>Garis panduan pelaksanaan dasar inklusif Orang Kurang Upaya di institusi pendidikan tinggi</i> — MOHE (2019)	Inclusive higher-education requirements for disabled students	National higher-education benchmark
Benchmark	<i>Convention on the Rights of Persons with Disabilities</i> — United Nations (2006)	Accessibility, dignity, equality, and participation principles	Rights-based benchmark
Benchmark	<i>IFLA Guidelines for Making Libraries Accessible for People with Disabilities</i> — IFLA (2024)	Library accessibility across facilities, information, services, and support	Professional-library benchmark
Benchmark	<i>Guidelines for Inclusive Library Services for Persons with Print Disabilities</i> — Balčytė et al. (2025)	Inclusive services, accessible formats, staff capability, and assistance	Professional-service benchmark
Benchmark	<i>Web Content Accessibility Guidelines (WCAG) 2.2</i> — W3C (2023)	Digital accessibility and consistent online help	Digital-accessibility benchmark
PSB	<i>Disabilities Services</i> — PSB	Facilities, staff assistance, contact channels, and support arrangements	Institutional accessibility evidence
PSB	<i>Library Floor Plan</i> — PSB	Spatial organisation, service points, collections, and study areas	Physical and spatial evidence
PSB	<i>PSB homepage</i>	Online access points, service information, and interface accessibility features	Digital and service-information evidence
UUM	<i>Home [Facebook page]</i> — Independent Living Centre (ILC) Permai UUM	Information on the disability-support environment associated with UUM	Disability-support context
UUM	<i>Student Affairs</i> — UUM	University-level student-support structure and service information	Institutional support context
Comparator	<i>People with Disabilities (OKU)</i> — Perpustakaan Tun Abdul Razak (PTAR), Universiti Teknologi MARA (UiTM)	Staff assistance, assistive technologies, and disability-oriented service documentation	Malaysian academic-library comparator

Benchmark construction preceded SERVQUAL coding. The six benchmark sources established criteria for physical and digital accessibility, procedural continuity, timely assistance, staff capability, coordination, privacy, choice, feedback, and participation. SERVQUAL dimensions then organised these criteria into tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Library applications refined coding for facilities, procedures, staff response, competence, coordination, privacy, choice, and respectful interaction (Cook & Heath, 2001; Thompson et al., 2000). Accessibility research informed the treatment of assistive-technology support, staff readiness, service continuity, and task-level accessibility (Çakmak & Uğurlu, 2025; Hunt et al., 2024; Potnis & Mallary, 2021). This sequence separated benchmark derivation from analytical organisation.

The unit of analysis was each discrete statement specifying an accessibility provision, service expectation, procedure, responsibility, support route, or user-facing access condition. Each statement was assessed against the relevant benchmark criterion and SERVQUAL domain, then compared with PSB/UUM documentation. Documented strength required explicit specification of a provision, procedure, responsibility, support route, or service condition. Under-specified documentation referred to provision lacking operational detail concerning responsibility, referral, response, continuity, coordination, follow-up, feedback, privacy, or service recovery. PTAR provided contextual comparison of documentary specificity in another Malaysian academic library without functioning as an institutional performance ranking.

Illustrative extracts demonstrate the coding criteria. The benchmark statement “Menyediakan kemudahan perpustakaan, ICT dan kemudahan-kemudahan lain yang mesra OKU” (MOHE, 2019, p. 19) was coded as a tangible-accessibility criterion. PSB specifies staff

assignment for assistance with resources, services, or tools (PSB, n.d.-a, “Dedicated Staff Support” section), which was coded under responsiveness and classified as documented provision. Missing referral progression, responsibility transfer, escalation, or follow-up was classified as under-specified documentation without inferring service failure.

Table 2. SERVQUAL-informed comparison of accessibility benchmarks and PSB/UUM documentation

SERVQUAL domain	Benchmark criterion	PSB/UUM documentary evidence	Under-specified documentation	Quality-access and quality-of-life implications
Tangibles	Accessible buildings, circulation routes, seating, toilets, collections, digital interfaces, assistive technologies, and information environments.	Recorded provision includes ramps, lifts, adapted seating and toilets, tactile paving, designated parking, wide shelf spacing, an accessible study room, collection arrangements, online accessibility features, and W3C-oriented interface tools. The floor plan maps building structure, service points, collections, and study areas.	Maintenance, accessibility testing, specialised assistive-technology compatibility, usability monitoring, and tool guidance receive comparatively little operational detail.	Navigation, independent resource access, and autonomy across physical and digital academic tasks.
Reliability	Predictable procedures, assigned responsibilities, referral continuity, response expectations, service consistency, and follow-up.	The document specifies service and task-force desks, dedicated staff support, named librarians with contact details, and advance arrangements requiring at least three days' notice. UUM separately lists institutional student-support structures, including a Student Support Services Division.	Initial contact is explicit, but later service progression is less defined across cross-unit referrals, responsibility transfer, escalation, disability-specific response expectations, and follow-up.	Predictable assistance, confidence, and continuity across successive academic tasks.
Responsiveness	Timely assistance for physical, informational, technological, or service barriers through consistently located help mechanisms.	Assistance is documented through service and task-force desks, dedicated staff assignment, advance support arrangements, and general contact and online help channels. WCAG 2.2 identifies consistent help as a digital-accessibility criterion (W3C, 2023).	The specification is weaker on immediate or unplanned task-level support, response targets, same-day assistance, and escalation after an initial route fails.	Information retrieval, problem resolution, task completion, and academic continuity.
Assurance	Staff competence, role clarity, disability awareness, accountability, coordination, and confidence in support routes.	PSB identifies dedicated librarians and staff-mediated assistance, and UUM records an institutional student-support structure.	Staff training, assistive-technology competence, disability-specific role boundaries, coordination authority across PSB/UUM support units, and accountability for unresolved access problems remain sparsely specified.	Trust, confidence, and autonomy during support encounters.
Empathy	Privacy, choice, individual preference, respectful interaction, personalised assistance, accessible feedback, and service recovery.	Users are invited to communicate individual support needs, personalised assistance is described, and a general feedback channel is available.	Procedural detail remains weak for disability-specific privacy safeguards, preference recording, accessible feedback, complaint escalation, follow-up, and service recovery.	Dignity, agency, and institutional belonging.

4.0 Findings

Cross-source analysis identified three connected patterns in PSB/UUM's accessibility documentation: extensive tangible provision, an under-specified route from support entry to resolution, and personalised assistance whose delivery process PSB/UUM leaves unclear. These findings frame quality access as the link between documented provision, academic participation, and quality-of-life relevance. User-based assessment will establish how disabled users experience these conditions.

4.1 Tangible accessibility anchors the documentary record; operational continuity defines the central gap

PSB's *Disabilities Services page*, *floor plan*, and *homepage* document physical, spatial, and digital accessibility (PSB, n.d.-a, n.d.-b; PSB, 2026). Table 2 identifies tangible accessibility as the SERVQUAL domain with the broadest documentary coverage. Across these sources, PSB names its provisions, maps their locations, and identifies digital features. The public record documents the library's accessibility infrastructure and establishes tangible provision as the strongest evidentiary domain. The analytical significance lies in the distinction between visible provision and sustained use. A documented feature marks an access point; academic participation depends on how the library connects that point to the next task, technology, or support encounter. This pattern positions accessibility as an operational process, where maintenance, technical verification, staff guidance, and recovery from access failures sustain functionality across the service route. The documents foreground infrastructure, and the procedures that preserve its usability form the central documentary gap. PSB's W3C-oriented features identify digital accessibility tools. A technical audit tests whether the interface conforms to WCAG 2.2. The finding therefore carries two implications: tangible accessibility anchors PSB's strongest documented domain, and operational continuity determines how that provision supports access across academic tasks.

4.2 Public documentation details service entry and under-specifies post-contact responsibility

PSB identifies several entry points for disability-related assistance, including service and task-force desks, named staff contacts, dedicated support, and advance arrangements that require at least three days' notice (PSB, n.d.-a). ILC Permai UUM and UUM's

student-support information place library assistance within a wider institutional support structure (ILC Permai UUM, n.d.; UUM, n.d.). These sources explain where users begin a request and how they arrange planned assistance. The documentary route becomes less defined after that point: the pages leave responsibility transfer, referral coordination, and follow-up under-specified.

Routine library activity clarifies the analytical significance of this handoff gap. Information searching, borrowing, printing, e-resource access, assistive-technology use, and navigation connect academic tasks with different staff roles and support units. Advance-notice arrangements define a planned route to assistance; task-level barriers require support as activity unfolds. PSB/UUM's public documents identify entry points but under-specify the sequence from initial contact to responsibility transfer, coordinated response, and resolution. PTAR's public guide specifies trained staff guidance and assistive-technology support, providing a Malaysian reference for operational detail in published library information (PTAR, n.d.). The comparison locates the central gap in handoff governance: a contact point marks the start of assistance; institutional continuity depends on staff ownership, referral coordination, and follow-through to task completion. PSB/UUM's public account maps this initial step and leaves the organisational processes linking it with academic-task resolution under-specified.

4.3 Service personalisation connects accessibility provision with quality-of-life conditions

Rights-based and higher-education frameworks ground accessibility in dignity, equality, participation, inclusion, and independence (IFLA, 2024; MOHE, 2019; United Nations, 2006). For library practice, Balčytė et al. (2025) guide accessible environments, collections, formats, assistive technologies, communication, and user involvement in service planning and delivery. Disability-access research adds a relational dimension: Bodaghi et al. (2016) link supportive librarian communication with help-seeking, inclusion, and belonging; Reed (2025) connects belonging with acceptance, respect, and support. Alledan et al. (2023) relate university disability-service support to quality of life, with physical self-esteem mediating that relationship. Vaccaro et al. (2015) connect belonging with self-advocacy, supportive relationships, academic success, and persistence.

5.0 Discussion

The findings identify service-route translation as the central mechanism connecting documented accessibility provision with functional academic participation. PSB/UUM documentation establishes a substantial physical, digital, assistive, and staff-support base and clearly specifies initial contact and planned assistance. Operational precision declines after initial contact, particularly across referral progression, responsibility transfer, task-time response, escalation, cross-unit coordination, follow-up, feedback, and service recovery. The Provision-to-Participation Quality Access Framework integrates this progression through four connected stages: documented accessibility provision, SERVQUAL-informed service translation, quality access across academic tasks, and quality-of-life implications, as presented in Figure 1.

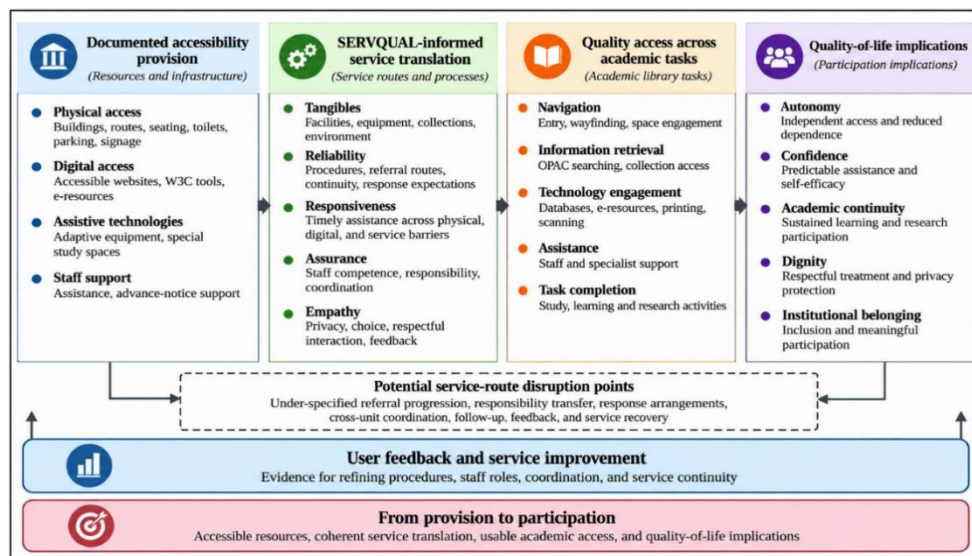


Fig. 1 Provision-to-Participation Quality Access Framework

SERVQUAL clarifies the service functions governing this translation. Tangibles establish the physical, technological, and informational conditions supporting entry into academic activity, and reliability organises procedural consistency, referral progression, and predictable assistance. Responsiveness structures task-time support and response arrangements, assurance defines staff competence, responsibility, and coordination, and empathy governs privacy, choice, respectful interaction, feedback, and recovery (Cook & Heath, 2001; Parasuraman et al., 1988; Thompson et al., 2000). The PSB/UUM corpus documents these conditions unevenly, describing visible provision and initial support more extensively than the operational transitions that connect recognised needs with coordinated task-level resolution. Referral progression, responsibility transfer, escalation, cross-unit coordination, follow-up, feedback, and recovery are the main documentary points where service-route specification weakens.

Academic library research reinforces the distinction between accessible resources and the service arrangements sustaining functional participation. Hunt et al. (2024) identify disability-related barriers across library and broader college experiences, and Potnis and Mallary (2021) demonstrate that assistive technologies retain functional value through guidance, staff capability, and operational support. Bodaghi et al. (2016) extend this service perspective by linking supportive librarian communication with help-seeking, inclusion, and belonging among visually impaired students. Johari et al. (2026) conceptualise meaningful access as an enacted outcome of alignment among institutional conditions, service practices, and user experience. SERVQUAL structures the service-quality dimensions governing this pathway, and rights-based accessibility frameworks ground the same conditions in dignity, equality, participation, and educational access (United Nations, 2006).

An alternative person–environment lens sharpens the proposed framework's theoretical boundary. The World Health Organisation's International Classification of Functioning, Disability and Health (ICF) conceptualises functioning and participation through interaction between individual conditions and environmental facilitators or barriers (World Health Organisation, 2001). Relative to rights-based accessibility frameworks, which establish dignity, equality, and participation as institutional commitments (United Nations, 2006), the ICF explains how environmental context shapes participation.

The PSB/UUM pattern aligns with implementation and relational tensions documented across disability, higher-education, and academic-library research. Dreyer (2021) distinguishes formal inclusion from effective participation through implementation quality, Tannenbaum-Baruchi et al. (2025) document difficulties associated with fragmented support and reliance on intermediary arrangements, and Reed (2025) locates belonging in relational conditions of acceptance, respect, and support.

The framework links quality-of-life implications to participation conditions associated with functional accessibility. In their model, Aliedan et al. (2023) specify physical self-esteem as a mediator in the associations between these support sources and disabled students' quality of life. Vaccaro et al. (2015) highlight belonging with self-advocacy, mastery of the student role, supportive relationships, academic success, and persistence.

6.0 Conclusion and Recommendations

Academic library accessibility achieves substantive quality when service routes carry documented provision across successive academic tasks. PSB/UUM documentation establishes a substantial accessibility base through physical facilities, spatial arrangements, digital features, assistive support, identifiable contact channels, staff assistance, and planned support. Operational specification declines after initial contact across referral progression, responsibility transfer, task-time response, escalation, cross-unit coordination, follow-up, feedback, privacy safeguards, and service recovery. This pattern leaves the progression from available resources to be coordinated task-level resolution less explicitly articulated. The Provision-to-Participation Quality Access Framework synthesises this pattern across documented accessibility provision, SERVQUAL-informed service translation, quality access across academic tasks, and quality-of-life implications. Priority areas for stronger public documentation include referral progression, staff responsibility boundaries, task-time response arrangements, cross-unit coordination, assistive-technology guidance, privacy safeguards, accessible feedback mechanisms, complaint escalation, follow-up, service recovery, maintenance, and usability monitoring.

Several methodological limitations frame the interpretation of these findings. The analysis relies on publicly accessible institutional and library materials and evaluates documented representation without claiming complete coverage of internal service procedures. The corpus centres on a single academic-library context, which constrains transferability across institutional settings. This evidence base excludes disabled-user perspectives, staff accounts, observed service encounters, and task-based accessibility testing, leaving experienced service performance outside the analysis's evidentiary scope. Missing or vague public information is classified as documentary under-specification, with judgments about service failure reserved for user-, staff-, observational-, or performance-based evidence. SERVQUAL structures service-quality comparison at the document-analysis level, leaving broader person–environment interaction and causal quality-of-life claims outside the analytical scope. Subsequent research requires interviews with disabled users and staff, observation, accessibility testing, and cross-library application to assess service-route performance and empirically validate the Provision-to-Participation Quality Access Framework. Functional systems, dependable assistance, and coordinated service establish the conditions through which documented provision progresses toward meaningful academic participation, with autonomy, confidence, dignity, academic continuity, and institutional belonging framing the associated quality-of-life implications.

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Paper Contribution to the Related Field of Study

The Provision-to-Participation Quality Access Framework advances quality-of-life, environment-behaviour, higher education, disability-access, and Information Management research by identifying service-route translation as the mechanism connecting documented accessibility provision with functional academic participation. The framework traces this translation across navigation, information retrieval, technology engagement, assistance, and task completion, and locates documentary weakness after initial contact across referral progression, responsibility transfer, response arrangements, coordination, follow-up, feedback, and service recovery. Its feedback and service-recovery loop positions user evidence as an input for procedural refinement, staff-role clarification, coordination,

and service improvement. It further links service conditions to autonomy, confidence, dignity, academic continuity, and institutional belonging as quality-of-life implications, preserving a clear distinction between documentary interpretation and lived outcomes.

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