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Inclusive Innovation in Libraries: Creating Experiential Digital Learning for Every Generation

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Abstract

Libraries are increasingly expected to provide inclusive learning opportunities that respond to changing technologies and diverse community needs. However, differences in digital access, skills, confidence, language, and accessibility can limit meaningful participation across generations. This conceptual research paper examines how libraries can create experiential digital learning environments that encourage participation, collaboration, creativity, and lifelong learning. Drawing on experiential learning theory, digital inclusion research, intergenerational learning studies, and professional library guidelines, the paper proposes a Reciprocal Experiential Library Model. The model connects inclusive entry, collaborative creation, guided reflection, and practical application while emphasizing accessibility, human support, privacy, and learner choice. Illustrative learning activities demonstrate how libraries can support children, young people, working adults, and older learners without relying on assumptions about age or technological ability. The paper also proposes implementation strategies and evaluation indicators to assess participation, digital confidence, learning transfer, and social belonging. As a conceptual study, it does not report original survey or experimental findings. It concludes that meaningful library innovation depends less on introducing advanced technologies than on creating accessible, participatory, and adaptable learning experiences for people throughout their lives.

Keywords: inclusive innovation, digital libraries, experiential learning, intergenerational learning, digital inclusion, lifelong learning, library services

Introduction

A library may have reliable Wi-Fi, a makerspace, electronic collections, and trained staff yet still fail to offer an accessible learning experience. A first-time visitor may not understand an unfamiliar device; a working learner may be unable to attend a daytime workshop; a child may need support to assess online content; and an older patron may prefer guided practice before working independently. These are not

separate problems for different age groups. They reveal a common design challenge: translating the availability of technology into meaningful opportunities to learn, create, and participate.

The 2022 IFLA–UNESCO public library manifesto positions libraries as institutions that enable learning, creativity, and digital literacy throughout life (International Federation of Library Associations and Institutions [IFLA] & UNESCO, 2022). Yet the Organisation for Economic Co-operation and Development (OECD, 2025) documents unequal participation in adult education, while digital inequality research explains why internet access alone cannot remove barriers involving skills, resources, and outcomes (van Dijk, 2020). Libraries therefore need a more comprehensive definition of innovation than the purchase of new tools.

This paper asks how libraries can organize inclusive, hands-on digital learning for people at different stages of life; how intergenerational participation can be reciprocal rather than paternalistic; and which safeguards and indicators can guide implementation. The contribution is a conceptual model and practical design agenda. The argument is that a library becomes innovative when it enables learners to move from welcome to experimentation, shared interpretation, and independent application—while retaining the freedom to participate offline or with human assistance.

Conceptual and Research Foundations

Experiential Learning and the Public Library

Experiential learning treats action and reflection as connected sources of knowledge. Kolb (1984) described a learning process in which experience, reflection, conceptual understanding, and further experimentation inform one another. This perspective is valuable for libraries because patrons often arrive with practical questions rather than a formal course syllabus. They may want to evaluate a claim, create a family archive, learn an accessible application, or complete a public-service form. Learning becomes more durable when participants can attempt a relevant task, discuss their decisions, improve an artifact, and apply the skill in a new setting.

Library makerspace research provides a caution against assuming that activity always leads to inclusion. Willett (2018) identifies pedagogical tensions within making programmes, and Melo and Rodney (2023) show how unfamiliar spatial arrangements may leave first-time makerspace users feeling unwelcome. Equipment and creative freedom do not automatically provide a clear invitation or equitable participation. Activities need orientation, multiple levels of challenge, and knowledgeable facilitation. The information literacy framework also emphasizes inquiry and evaluation rather than passive consumption of resources (Association of College and Research Libraries [ACRL], 2016).

Digital Equity Beyond Device Access

Digital equity involves conditions of meaningful use, not merely a connection to the internet. Grimes and Porter (2024) describe the role of libraries and partnerships in addressing digital exclusion. van Dijk (2020) distinguishes access from the skills and

outcomes that follow it, which helps explain why a learner may own a smartphone yet struggle to create documents, judge misinformation, or navigate inaccessible interfaces. Local languages, assistive technologies, transport, cost, and available time can further influence participation. A programme described as open to everyone may still favor people who already possess confidence and resources.

Accessibility must also be treated as a feature of learning design. Anderson and Phillips (2023) identify opportunities to make public library makerspaces more responsive to adults with disabilities. The World Wide Web Consortium (W3C, 2024) provides testable accessibility criteria for digital content and interfaces, although meeting a technical standard alone cannot guarantee an inclusive workshop. Libraries should combine accessible software with adaptable rooms, paced instruction, alternative formats, and non-digital routes to assistance.

Reciprocity Across Generations

Generational programmes often assume that younger participants teach technology and older participants receive help. That pattern overlooks different kinds of expertise within every age group. A child may understand an application but need help evaluating sources; an older adult may bring professional knowledge, oral history, or linguistic expertise; and both can learn from a shared project. In a 2026 qualitative study of two public libraries in Lagos State, Adewojo et al. describe how intergenerational digital projects supported older adults' agency through reciprocal knowledge exchange and co-created artifacts. The study offers useful situated evidence, not proof that the same outcomes will occur in every library (Adewojo et al., 2026).

An inclusive approach therefore groups participants by their interests and preferred forms of support, not by assumed characteristics of their generation. It invites people to choose roles such as storyteller, interviewer, fact-checker, designer, translator, or digital editor. This distribution of meaningful roles can shift attention away from who is supposedly digitally capable and toward what participants can accomplish together.

Research Design and Analytical Method

This paper uses a selective, critical integrative review to develop a conceptual framework. Source identification focused on peer-reviewed scholarship concerning library makerspaces, intergenerational digital projects, accessibility, digital equity, and experiential learning, together with primary guidance from library and standards organizations. Materials were read for what they contribute to understanding entry barriers, learning processes, reciprocal roles, and responsible digital service delivery. This is not a systematic review: it uses no preregistered protocol, exhaustive database search, formal risk-of-bias scoring, or pooled quantitative estimate.

The synthesis proceeded through three interpretive steps. First, recurring concerns were grouped into four design problems: entry, meaningful activity, reflection, and learning beyond the workshop. Second, each problem was linked to feasible actions by library staff and participants. Third, hypothetical service journeys were used to test whether the proposed model would retain accessibility, learner choice, and privacy at

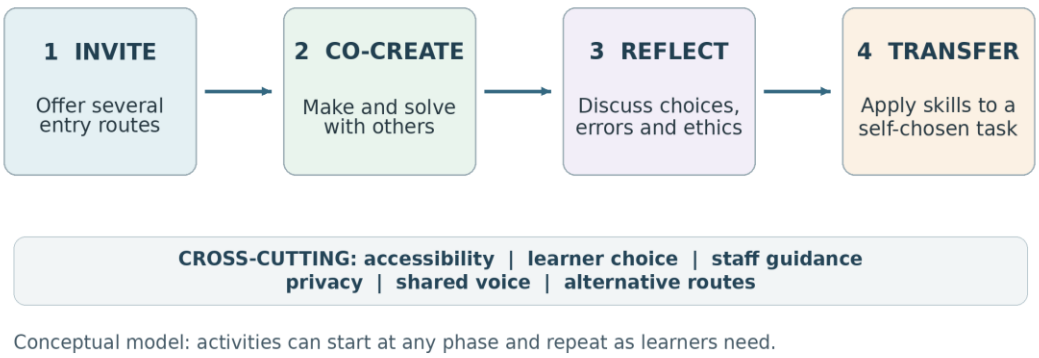
each transition. The resulting model is a proposal developed for this paper; the scenarios and evaluation indicators are not observed findings.

The Reciprocal Experiential Library Model

The proposed Reciprocal Experiential Library Model (RELM) treats inclusion as a continuing service relationship rather than a one-time induction. It contains four linked phases—invite, co-create, reflect, and transfer—with cross-cutting safeguards. A participant can enter or return at any phase. The sequence is intended to be adapted to a small community branch, a university library, or a regional public library; it does not require expensive immersive technology. Figure 1 illustrates the model, while Table 1 translates it into observable service choices.

Figure 1

The Reciprocal Experiential Library Model



Note. Original conceptual illustration developed for this paper. The phases are iterative rather than a mandatory sequence.

Invite: Lower the Threshold

An invitation should explain what a learner can do, what support is available, what the activity costs, and whether an account or device is required. Orientation might include a short demonstration, a print guide, a staffed walk-in station, or a low-bandwidth introduction. New users should be able to observe before taking a public role. Staff can ask about preferred language, accessibility needs, and the learner's goal without demanding unnecessary personal details. This phase is successful when a person can begin confidently, not simply when a registration form is completed.

Co-Create: Make Expertise Shareable

Participants work on an authentic product or problem while exchanging knowledge in both directions. A mixed-age group might map accessible neighborhood routes, compare the credibility of local news stories, record oral histories, or create instructions for using civic services. The librarian provides resources and facilitation rather than assigning a fixed teacher–learner hierarchy. Work should remain possible using common devices and low-cost software. Optional collaboration prevents

inclusion from becoming enforced social interaction for learners who prefer independent work.

Reflect: Strengthen Judgment

Reflection turns an enjoyable workshop into an opportunity for critical thinking. Facilitators may invite participants to explain why they trusted a source, how they solved an accessibility problem, or who should approve publication of an interview. Feedback can be spoken, written, recorded, or privately shared. This phase is particularly important when generative tools, online platforms, or personal stories are involved. The goal is not agreement on every choice but the capacity to identify limitations, revise a decision, and respect other contributors.

Transfer: Support Life Beyond the Event

The library offers an optional next step that applies learning outside the initial setting: a personal project, reusable checklist, take-home activity, remote help appointment, or community display. A learner might transfer source-checking skills to a college assignment, job-search planning, or local health-information inquiry. Transfer should be judged through chosen tasks rather than through compulsory monitoring of online behavior. Libraries can retain human help and practical access to equipment when further practice is needed.

Table 1

RELM Phases and Inclusive Service Decisions

Phase	Library practice	Participant evidence	Access alternative
Invite	Plain-language orientation and optional guided entry	Learner identifies a goal and starts a task	Walk-in, print, phone, or assisted access
Co-create	Flexible roles and a shared authentic project	A contribution, draft, or practical prototype	Independent task or low-tech equivalent
Reflect	Feedback, source checks, and consent review	Learner explains or revises a decision	Oral, written, private, or assisted response
Transfer	Practice guide and voluntary follow-up help	Self-chosen task completed in a new context	Borrowed device, onsite practice, or offline kit

Note. Proposed design actions and indicators are conceptual; they are not results from an evaluated intervention.

Applications Across the Life Course

Age may influence scheduling, resources, and learning contexts, but it does not define competence. A practical programme should be organized around a participant's

purpose and available support. Table 2 provides illustrative starting points, each of which could be adapted for people of other ages. The examples also allow families, students, educators, and community organizations to contribute without making a mobile device or personal online account the condition for participation.

Table 2

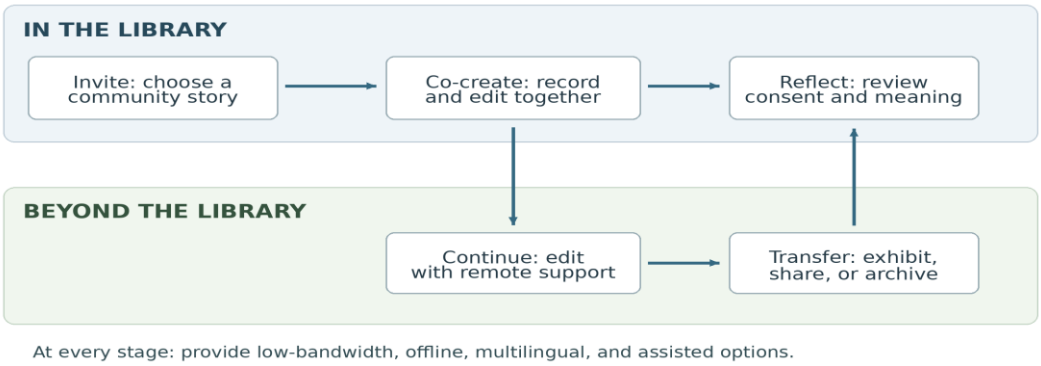
Illustrative Activities for Different Learning Contexts

Learning context	Experiential activity	Reciprocal contribution	Possible learning indicator
Children and families	Create a multilingual neighborhood nature guide	Children observe; adults support context and verification	Explain one source choice and one observation
Students and young adults	Produce a short misinformation-checking exhibit	Peers compare tools; others contribute local knowledge	Apply an evidence checklist to a new claim
Working adults	Develop a practical digital portfolio or service guide	Participants exchange workplace and digital skills	Complete a self-selected document or workflow
Older and mixed-age groups	Co-produce a consent-based local memory archive	Storytellers, interviewers, editors, and translators exchange skills	Complete a contribution and explain a consent decision

Note. These are design scenarios, not age-based prescriptions or findings from fieldwork. Participation should be voluntary and role choice flexible.

Figure 2

An Accessible Intergenerational Learning Journey



Note. Original service scenario developed for this paper; it does not represent an observed programme.

Consider an intergenerational neighborhood memory lab. A local resident selects a story and retains the right to decide whether it may be recorded. Other participants help conduct an interview, add descriptive metadata, check factual context, and prepare an accessible version. The group reviews copyright, image permissions, and possible sensitivity before deciding whether to share the artifact. A person unable to attend can contribute by telephone or through a simple take-home kit. Figure 2 shows how the same project can move between physical and remote participation.

Accessibility, Privacy, and Ethical Safeguards

Three risks can undermine otherwise attractive projects. First, technology-rich spaces can become socially exclusive through unexplained rules, difficult interfaces, or inaccessible furniture (Anderson & Phillips, 2023; Melo & Rodney, 2023). Second, requiring accounts may expose reading interests, recordings, or learning difficulties. The National Information Standards Organization (2015) recommends transparency, informed choice, and restrained collection of user information. Third, personalizing activities by presumed generational traits can reproduce ageism. Staff should replace demographic assumptions with individual requests, accessible alternatives, and feedback from nonparticipants.

For digital activities, libraries should check captions, keyboard access, text alternatives, readable contrast, accessible authentication, and compatibility with assistive technologies (W3C, 2024). For physical activities, they should assess seating, sound, signage, transport, and the availability of quiet participation. In projects using family stories or community archives, contributors should determine what can be preserved, displayed, changed, or withdrawn. Innovation must not require participants to surrender privacy or public visibility against their wishes.

Implementation Roadmap

Implementation can begin with one modest pilot rather than a technology procurement campaign. During an initial listening stage, librarians invite users and nonusers to describe entry barriers and identify tasks they consider valuable. Participation should include people who have previously avoided library digital services. Staff can record these concerns without collecting sensitive details. A baseline review documents the availability of devices, accessible formats, staff time, and existing partnerships.

Next, the library co-designs a small programme using the RELM phases. A practical pilot might run four weekly sessions on local digital storytelling, with a drop-in introduction and a choice of on-site or remote continuation. Each session requires a named facilitator, a low-tech fallback, accessible materials, and a clear privacy plan. Partnerships with schools, adult education centers, disability groups, and community organizations may expand expertise, but the library should keep responsibility for access and participant consent.

During implementation, staff observe where support breaks down: unclear instructions, one participant dominating, inaccessible files, or tasks that need better equipment. The group then revises activity pacing, roles, and materials. Expansion should follow evidence of usefulness rather than publicity or attendance alone.

Procurement decisions need a maintenance budget and an exit route when a vendor platform becomes unaffordable. The IFLA–UNESCO manifesto supports such a focus on sustainable public access rather than technological spectacle (IFLA & UNESCO, 2022).

Evaluation and Future Research

Evaluation should distinguish outputs from learning outcomes. Registrations, device loans, and downloads indicate activity, but they do not establish independent capability or social belonging. A suitable pilot can combine anonymous attendance totals with optional task demonstrations, brief confidence reflections, accessibility audits, and follow-up conversations. It should also invite feedback from people who did not participate. Reporting these differences helps prevent high attendance among digitally confident users from being mistaken for improved equity.

Table 3

Suggested Evaluation Domains and Ethical Measures

Domain	Illustrative indicator	Method	Safeguard
Access and equity	Barriers resolved; use of alternative formats	Accessible feedback and service audit	Do not infer ability from age
Applied learning	Completion of a self-chosen task	Voluntary demonstration or artifact	Assess only with explicit agreement
Reciprocity and belonging	Perceived voice and mutual help	Short reflection or optional interview	Allow anonymous or private feedback
Trust and sustainability	Privacy concerns and reliable support	Policy review and staff/service logs	Minimize and limit data retention

Note. Indicators are candidate measures for future piloting, not validated scales or observed results.

Three propositions warrant empirical investigation. First, participants offered accessible entry choices may be more likely to continue an activity than those offered only a digital registration route. Second, reciprocal roles may improve perceived belonging more effectively than one-way technology tutoring when participants contribute different forms of expertise. Third, supported reflection and opportunities for transfer may produce greater demonstrated task independence than a single demonstration session. Future studies could compare matched programmes, collect pre- and post-task observations with consent, and examine relevant differences without treating generations as homogeneous groups.

Discussion and Limitations

The model connects experiential learning with library digital equity. All learners need meaningful ways to enter, try, question, and apply a task, but they need not follow the same programme. Reciprocity allows a person receiving technical assistance to share

community expertise. Libraries with limited budgets may benefit from adaptable materials and skilled facilitation rather than expensive hardware. The model remains untested across languages, institutions, and resource contexts.

As a selective synthesis, this paper cannot establish causal effects or validate the proposed indicators. The activities are designs, not completed interventions. Future studies should include diverse access needs, assess staff costs, and examine local ethical requirements for publishing learner-created material.

Conclusion

Inclusive innovation gives people accessible ways to enter, shape, question, and apply digital learning. The proposed model links invitation, co-creation, reflection, and transfer while preserving learner choice and privacy. Staff support, alternative access routes, and outcomes-based assessment are essential. With empirical testing and community adaptation, libraries can strengthen intergenerational exchange without assuming that any age group shares a uniform set of abilities or needs.

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