

From Periodic Training to Lifelong Capability: Alam's Continuous Learning Framework for Human Agency in an AI-Transformed Society

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ABSTRACT

Technological acceleration, artificial intelligence, demographic change, misinformation, and recurrent labour-market disruption have made episodic education inadequate for functional and active lives. This conceptual article extends Alam's Theory of Continuous Learning as a human-centred framework for designing learning across the lifespan. The objective is to connect lifelong education with workplace capability, scientific reasoning, cultural participation, health decision-making, economic agency, and media discernment. The method is an integrative conceptual synthesis of established learning theories, international policy sources, and five illustrative cases selected for variation in setting and function: BRAC's Freirean functional education and contemporary retail apprenticeships in Bangladesh; workplace reskilling under artificial intelligence; Canada's Skills for Success architecture; adult media and artificial-intelligence literacy; and integrated health, financial, and cultural literacy for community agency. The analysis identifies a recurrent five-part cycle: encounter, critical interpretation, situated integration, capability-producing action, and reciprocal contribution followed by re-engagement. It also specifies six capability domains and four enabling conditions: access, relevance, recognition, and reciprocity. Across the cases, learning is most durable when it begins with a consequential problem, joins technical knowledge to critical reflection, permits practice in an authentic setting, makes achievement visible, and enables learners to improve the competence of others. The framework differs from conventional human-capital approaches by treating employability as necessary but insufficient; continuous learning must also strengthen health, democratic judgment, cultural navigation, and freedom from manipulation. The article proposes testable propositions, indicators, and a policy design matrix for governments, employers, universities, and civil society. Alam's framework is offered as a program-design and evaluation heuristic requiring further empirical validation, not as a universal causal law. It provides a practical basis for building equitable learning systems capable of supporting human dignity, reason-driven living, productive work, and social resilience throughout the lifespan.

Keywords: continuous learning; lifelong capability; artificial intelligence; functional education; human resource development

INTRODUCTION

The familiar sequence of education, work, and retirement no longer describes how many people live. A worker may learn a new digital system after a firm reorganizes, care for an ageing parent while interpreting health information, migrate into a new linguistic and cultural environment, manage online financial services, and assess synthetic media during the same year. Each task involves knowledge, but none is solved by knowledge alone. People must judge credibility, transfer prior experience, cooperate across difference, act under uncertainty, and revise their understanding when evidence changes. Continuous learning has therefore moved from an educational aspiration to basic social infrastructure.

Current developments make the need visible. The International Labour Organization reports that generative artificial intelligence can augment a substantial share of employment while also widening inequality when workers lack access to learning [1]. UNESCO similarly argues that AI's educational opportunities arrive with risks that have outpaced policy and require rights-based, lifelong responses [2]. In January 2026, BRAC announced an apprenticeship partnership with 20 retail employers in Bangladesh: approximately 2,000 disadvantaged young people were to receive foundational retail preparation, workplace exposure, and placement support [3]. These developments are not isolated training stories. They show institutions trying to connect learning with changing tasks, real workplaces, and unequal opportunity.

The problem is conceptual as well as practical. Lifelong learning is often used as an umbrella phrase for adult education, professional development, online courses, informal learning, or employability policy. Such breadth is valuable, but it can leave program designers without a clear account of what must occur for an experience to become usable capability. A person can attend many courses yet remain unable to challenge misinformation, navigate a new institution, or transfer learning into action. Conversely, a village discussion, peer demonstration, or workplace problem may produce consequential learning even when it awards no credential.

This article advances a new title and a substantially expanded formulation of Alam's Theory of Continuous Learning. Earlier versions described a human-centred cycle and argued for holistic, inclusive education across life [4]. The present paper develops that foundation in four ways. First, it distinguishes six capability domains: foundational, technological-scientific, occupational, health, economic, and civic-cultural-media capability. Second, it identifies four enabling conditions - access, relevance, recognition, and reciprocity. Third, it states propositions and measurable indicators so that the framework can guide empirical study. Fourth, it examines five cases that connect the theory to current policy and practice.

The central claim is that continuous learning is a recurring conversion of experience and information into reasoned, situated capability that enlarges agency and can circulate socially. Its outcome is not simply retained content or a certificate. It is an improved ability to understand, decide, perform, adapt, and contribute. This perspective is relevant to scientists and technologists because technical systems are embedded in institutions and human judgment; to educators because transfer and motivation cannot be assumed; to employers because skill renewal depends on job design as well as courses; and to policy-makers because unequal access to learning can amplify every other inequality.

METHOD AND SCOPE

This is a conceptual theory-development article using integrative synthesis. It does not report an experiment, survey, or interviews. Sources were selected purposively from three groups: foundational theories of experience, dialogue, adult learning, development, motivation, and career construction; authoritative policy and institutional sources addressing contemporary skill needs; and documented programs capable of illuminating different parts of the proposed framework. The five cases are illustrative rather than statistically representative. Their purpose is analytic generalization: to ask whether the same mechanisms can explain learning in community education, employment, public policy, digital information environments, and everyday life.

The analysis followed four questions. What problem initiates learning? How is information critically interpreted and connected to prior experience? Where is new understanding practiced and recognized? Does learning produce agency that can be renewed and shared? Claims about program scale or outcomes are attributed to their institutional or research sources. Because some contemporary evidence comes from organizational reporting, the paper distinguishes documented features from independent causal evidence. That limitation is important: a compelling program description cannot by itself establish impact.

The framework is normative and explanatory. It specifies desirable design conditions and proposes mechanisms, but does not claim that every learner moves through fixed stages or that all learning is emancipatory. Learning can reinforce prejudice, enable manipulation, or intensify exclusion. Continuous exposure is not necessarily continuous development. The evaluative criterion is whether learning improves

evidence-sensitive capability, human agency, ethical responsibility, and the capacity for reciprocal contribution.

THEORETICAL FOUNDATIONS

Dewey located education in the reconstruction of experience: experience becomes educative when it opens, rather than narrows, the possibility of further growth [5]. This principle anticipates the re-engagement component of Alam's cycle. Yet experience alone is ambiguous. It may reproduce habit unless learners inquire into consequences and connect action with reflection.

Freire supplies the critical and political dimension. Conscientization is the development of critical awareness through reflection and action upon lived conditions [6]. Dialogue does not treat adults as empty containers; it makes their language, problems, and knowledge legitimate starting points. This matters when learning concerns work, health, money, culture, or media, because apparently technical decisions often reflect power: who defines expertise, whose experience counts, who bears risk, and who controls the information environment.

Knowles' account of self-directed adult learning emphasizes experience, problem orientation, readiness, and learner responsibility [7]. These are essential, but autonomy should not be romanticized. Time poverty, insecure employment, disability, language barriers, unreliable internet, and prior educational exclusion constrain choice. Vygotsky's sociocultural account reminds us that capability emerges through mediated participation with people and tools [8]. Scaffolds, peer support, language, and institutional design are therefore part of learning, not external conveniences.

Mezirow describes transformation as critical revision of frames of reference [9]. Bandura's self-efficacy explains why successful action and credible social models affect persistence [10]. Self-determination theory adds that autonomy, competence, and relatedness shape motivation [11]. Wlodkowski's culturally responsive framework translates these insights into inclusive adult education by emphasizing inclusion, attitude, meaning, and competence [12]. Alam's theory incorporates these motivational conditions while treating social contribution as a further source of meaning and renewal.

Career theories clarify learning across transitions. Super's life-span, life-space model recognizes that people occupy changing roles and reconstruct careers over time [13]. Gottfredson shows how occupational aspirations can be circumscribed by social expectations and compromised by perceived accessibility [14]. These theories help explain why an available course may not become a credible pathway for a marginalized learner. Continuous-learning policy must alter opportunity structures, recognition systems, and imagined futures, rather than merely publish course catalogues.

Connectivism draws attention to knowledge distributed across people and digital networks [15]. In contemporary environments, however, connection is not equivalent to understanding. Search systems, recommender algorithms, social networks, and generative AI can accelerate discovery while also producing false confidence, fabricated sources, polarization, and surveillance. The needed competence is epistemic: learners must ask what is known, how it is known, what uncertainty remains, whose interests shape the message, and what evidence would change a conclusion.

ALAM'S CONTINUOUS LEARNING FRAMEWORK

Alam's framework defines continuous learning as the recurring, socially situated process through which a person or group converts encounters with problems, evidence, people, and tools into critically interpreted knowledge, usable capability, expanded agency, and reciprocal contribution. Learning is lifelong because relevant encounters continue; life-wide because they occur in homes, workplaces, institutions, communities, and digital environments; and life-deep because they can revise identity, values, and assumptions.

The cycle has five movements. Encounter is contact with a consequential question, disruption, opportunity, or contradiction. It may be planned, as in an apprenticeship, or unplanned, as in illness or job displacement.

Critical interpretation involves questioning evidence, language, causes, power, and prior assumptions. Situated integration connects new understanding with earlier knowledge, cultural meaning, and the requirements of a real context. Capability-producing action is practice that changes what the learner can reliably do or decide. Reciprocal contribution occurs when capability benefits others through mentoring, caregiving, collaboration, civic participation, or improved institutional practice. Contribution creates feedback, new questions, and re-engagement.

The sequence is recursive rather than linear. A failed action can return the learner to interpretation; dialogue can create a new encounter; teaching another person can reveal an incomplete understanding. Reflection without action may remain abstract, while action without critical interpretation can efficiently reproduce error. Reciprocity prevents lifelong learning from being reduced to private accumulation. Knowledge becomes socially durable when learners participate in communities of competent practice.

Six domains describe the substantive breadth required for functional and active life. Foundational capability includes reading, writing, numeracy, communication, problem-solving, adaptability, collaboration, and learning-to-learn. Technological-scientific capability includes digital operation, data interpretation, AI literacy, cybersecurity habits, causal reasoning, probability, and responsible experimentation. Occupational capability covers task-specific knowledge, safety, quality, customer interaction, teamwork, and career navigation. Health capability includes accessing, appraising, communicating, and acting on health information. Economic capability includes budgeting, contracts, credit, taxation, insurance, entrepreneurship, risk, and consumer protection. Civic-cultural-media capability includes navigating institutions, understanding histories and norms, communicating across difference, evaluating sources, recognizing manipulation, and participating democratically.

These domains overlap. A worker assessing an AI-generated recommendation may need occupational knowledge, statistics, media literacy, and ethical judgment. A newcomer comparing employment contracts may need language, cultural navigation, numeracy, and legal-economic literacy. A patient reading claims on social media may need health, scientific, and media literacy. Programs should therefore organize learning around authentic problems rather than protect disciplinary boundaries.

Four enabling conditions determine whether the cycle can operate equitably. Access means affordable time, technology, language support, disability accommodation, childcare, transportation, and psychological safety. Relevance means that learning addresses recognizable life or work problems and respects the learner's knowledge. Recognition makes development visible through feedback, credentials, portfolios, advancement, or community trust. Reciprocity creates structured opportunities to teach, mentor, improve systems, and contribute. Without these conditions, exhortations to "keep learning" can transfer institutional responsibility onto individuals who possess the least time and power.

Five propositions follow. P1: A consequential, learner-recognized problem will produce stronger engagement than decontextualized content, when basic access is held constant. P2: Critical interpretation combined with authentic practice will produce greater transfer than information delivery alone. P3: Recognition of prior and newly acquired learning will increase persistence and mobility, especially during role transitions. P4: Reciprocal contribution will strengthen retention, self-efficacy, and collective capability. P5: Programs integrating multiple literacy domains around a real task will improve adaptive agency more than isolated short courses, provided cognitive load and foundational gaps are appropriately scaffolded.

These propositions are testable. Encounter can be measured through perceived relevance and problem ownership; interpretation through source evaluation, explanation quality, and metacognitive calibration; integration through transfer to novel but related contexts; action through observed performance and decision quality; reciprocity through mentoring, knowledge-sharing, and process improvement; and re-engagement through subsequent learning activity. Equity should be evaluated by participation, completion, transfer, and benefit across age, gender, income, disability, geography, language, and migration status.

Figure 1. Alam's recursive continuous learning cycle

**ENCOUNTER ->CRITICAL INTERPRETATION->SITUATED INTEGRATION->CAPABILITY-
PRODUCING ACTION->RECIPROCAL CONTRIBUTION->RE-ENGAGEMENT**

FIVE ILLUSTRATIVE CASES

Case 1: BRAC functional education, conscientization, and apprenticeship

BRAC's early work in rural Bangladesh offers a particularly strong case because literacy was linked to daily life and collective awareness. Mushtaque Raza Chowdhury recalls that villages served by BRAC in the 1970s had literacy rates below 20 percent and that BRAC designed an adult "functional education" program influenced by Paulo Freire [16]. Village discussions encouraged participants, especially women, to recognize exploitation and understand their social role. Literacy was thus not treated as decoding detached text. It joined words, livelihoods, health, family relations, and power.

In Alam's terms, lived contradictions supplied the encounter; dialogue enabled critical interpretation; local language and problems supported integration; changed participation represented action; and vocal engagement in village meetings demonstrated reciprocal empowerment. The case also exposes a core tension. Conscientization cannot be judged only by test scores, yet claims of empowerment require evidence beyond inspiring narratives. Mixed evaluation should combine literacy and livelihood measures with changes in voice, decision-making, collective action, and institutional responsiveness.

BRAC's current education work illustrates adaptation rather than fidelity to one historical format. BRAC reports over 14.7 million graduates from its pre-primary and primary schools and operates schools and community learning centres serving populations often excluded by conventional provision [17]. Its January 2026 retail initiative combines a short foundational boot camp with a month of workplace apprenticeship and employment support. BRAC reports that a 2023 impact study found greater confidence, communication, and income gains among trained participants, particularly women [3]. The historical and contemporary programs share a design logic: start with actual constraints, combine foundational and practical learning, provide social support, and connect education with agency. Independent replication and longer-term outcome data remain necessary.

Case 2: AI transformation and workplace learning

Artificial intelligence makes continuous learning a workplace governance issue. The ILO emphasizes that digital transformation can augment work but can also deepen divisions when training, connectivity, and worker voice are unequal [1]. The relevant encounter is often a changed workflow rather than job disappearance: a nurse receives an automated summary, a technician uses predictive maintenance, a teacher reviews generated lesson material, or an administrator verifies AI-produced text. Competence requires more than tool operation. Workers must understand limitations, protect confidential data, notice bias, verify outputs, and know when human expertise must override automation.

Alam's framework implies that an annual generic course is insufficient. Learning should occur close to the task through paid practice, peer inquiry, supervised experimentation, error review, and redesign of workflow. Recognition should include advancement and portable evidence of capability. Reciprocity requires workers to report failures and teach colleagues without fear of punishment. Employers must measure whether training improves judgment, safety, quality, and worker mobility, not simply completion rates.

This case also clarifies responsibility. If an organization introduces AI, it cannot define resulting skill gaps as private deficiencies. Employers control job design, data access, procurement, and time for learning. Governments influence social protection and credential portability. Technology providers shape explainability and documentation. Workers have responsibilities for practice and ethical conduct, but continuous learning is a shared institutional obligation.

Case 3: Canada's Skills for Success and workplace transfer

Canada's Skills for Success model identifies nine transferable capabilities: reading, writing, numeracy, digital skills, problem-solving, communication, creativity and innovation, collaboration, and adaptability [18]. Its strength is architectural. It recognizes that technical performance depends on interacting foundational and socio-emotional capabilities and supplies assessment and training resources for individuals, employers, and providers [19]. This aligns closely with Alam's foundational domain.

The model becomes more powerful when skills are embedded in real work. A Government of Canada workplace example describes a manufacturer whose employees needed to read work orders, recalibrate equipment, sequence operations, work safely, cooperate, and deal with customers; contextualized essential-skills training reduced dependence on senior employees and supported productivity [20]. The unit of learning was not an abstract literacy deficit but successful performance of interconnected tasks.

Alam's extension adds three questions. Do workers have paid access and a voice in defining the problem? Is learning recognized in wages, mobility, or credentials rather than captured only as employer productivity? Can participants transfer capability to community, health, financial, and civic decisions? A lifespan policy should connect workplace learning accounts, public institutions, colleges, libraries, unions, and community organizations so that a worker can carry recognized development across jobs and life transitions.

Case 4: Media, information, and AI literacy for adults

Social media and generative AI have lowered the cost of producing persuasive falsehoods. UNESCO describes media and information literacy as an essential life skill and recommends habits such as pausing before sharing, questioning sources, diversifying information, and understanding how AI systems work [21]. In 2024, the UNESCO Institute for Lifelong Learning launched a self-paced course for adult educators covering social media, AI, hate speech, misinformation, disinformation, and gender equality [22]. The case demonstrates that adult education must address the information environment, not only access to devices.

Alam's cycle translates media literacy into practice. A suspicious health post, fabricated image, or financial promise supplies the encounter. Learners identify the claim, trace the source, compare independent evidence, examine incentives, and state uncertainty. They then act: decline to share, consult a professional, correct a group message, or create an evidence-based explanation. Reciprocal contribution is essential because misinformation spreads through trusted relationships. A learner who helps family members verify claims changes the network, not only an individual score.

Assessment should use realistic tasks rather than definitions of "misinformation." Measures can include lateral reading, source tracing, recognition of sponsored content, calibration of confidence, explanation of uncertainty, privacy decisions, and willingness to correct an earlier belief. Programs should avoid partisan thought-policing. The objective is disciplined inquiry: claims should face appropriate evidence regardless of who advances them.

Case 5: Integrated health, economic, and cultural literacy

The final case concerns ordinary decisions whose consequences cross institutional boundaries. WHO defines health literacy as the capacity to access, understand, appraise, and use information and services, and explicitly connects it with equitable education and lifelong learning [23]. Health decisions increasingly involve patient portals, probabilistic risk, online claims, consent, insurance, and culturally mediated communication. Economic life similarly requires interpreting contracts, interest, fraud, taxation, benefits, and platform-based transactions. Newcomers and older adults may also need cultural and institutional literacy: not assimilation into a single identity, but practical understanding of how systems work and confidence to question them.

Consider an older newcomer managing a chronic condition while receiving a fraudulent message that imitates a public agency. A narrowly digital course might teach how to click safely but miss medical urgency, financial risk, language barriers, and fear of authority. An integrated program could use the actual scenario to practice source verification, secure account access, plain-language communication with a clinician, interpretation of

costs and benefits, and knowledge of complaint mechanisms. A multilingual community facilitator could scaffold the work; participants could then teach family members.

This case is intentionally composite, not a report of a particular participant. It demonstrates why life skills should be designed as capability clusters. WHO warns that infodemics can create confusion, harmful risk-taking, and distrust [24]. The response requires trustworthy institutions as well as better-informed individuals. Alam's access and reciprocity conditions therefore apply to service organizations: hospitals, banks, governments, and platforms must make accurate action easier, disclose uncertainty, and co-design information with affected communities.

COMPARATIVE ANALYSIS AND DISTINCT CONTRIBUTION

The framework's distinct contribution is synthesis with an operational purpose. Dewey explains continuity of experience; Freire explains critical consciousness and praxis; Knowles explains adult self-direction; Mezirow explains perspective transformation; Bandura and self-determination theory explain efficacy and motivation; Super and Gottfredson explain role transitions and constrained aspirations; Wlodkowski guides culturally responsive motivational design. Alam's framework organizes these insights around conversion into situated capability and reciprocal social value.

It also resists three reductions. The first is credentialism: qualifications can recognize learning, but credentials are neither necessary nor sufficient evidence of capability. The second is technological solutionism: a platform can widen access while leaving motivation, transfer, trust, language, and power untouched. The third is economism: human-resource development is crucial, but people learn not only to remain employable. They learn to remain healthy, exercise judgment, care for others, participate in culture, and resist manipulation.

Reciprocity is the most distinctive element. Many learning cycles end at application or reflection. In Alam's account, mature learning creates capacity in a social system. A technician documents a safer process; a patient helps relatives evaluate claims; an immigrant mentors newcomers; a retired scientist supports community inquiry. Contribution generates meaning and feedback while distributing knowledge beyond those who can purchase formal education.

The theory nevertheless has boundary conditions. Not every situation permits extended reflection; urgent work may demand trained routines. Expertise requires disciplined domain knowledge that broad life-skills programs cannot replace. Social contribution can become unpaid labour imposed on marginalized people. Continuous-learning rhetoric can normalize permanent insecurity or blame workers for structural job loss. Programs must therefore protect rest, compensation, professional standards, privacy, and the right not to be perpetually assessed.

The framework should be regarded as a middle-range design theory. It is broad enough to connect sectors but specific enough to generate choices and measures. Its validity will depend on comparative studies examining whether the proposed mechanisms predict transfer and agency across settings, and whether integrated programs outperform plausible alternatives.

PROGRAM DESIGN, MEASUREMENT, AND POLICY

A meaningful continuous-learning program begins with capability mapping. Designers should identify consequential decisions and performances at each life stage or transition, then work backward to the knowledge, tools, relationships, and enabling conditions required. A school-leaver, mid-career worker, caregiver, newcomer, unemployed adult, and retiree require different entry points, but each should be able to move among public, workplace, post-secondary, and community learning without losing recognition.

Public policy should establish a learning guarantee rather than a collection of short projects. The guarantee should include affordable foundational education; broadband and accessible public learning spaces; paid learning time; recognition of prior learning; modular credentials that can accumulate without trapping learners in proprietary systems; career and learning navigation; language, disability, childcare, and transportation

supports; and transparent quality assurance. Funding should follow learners while also sustaining institutions that serve high-need communities, where per-learner costs are often greater.

Employers should integrate learning into job design. Each major technological change should be accompanied by a capability-impact assessment: which tasks change, what judgment remains human, what new risks appear, who is most exposed, and how training time and benefit will be distributed. Joint employer-worker committees can select authentic tasks, review errors, and protect reporting. Human-resource metrics should include skill transfer, internal mobility, pay progression, safety, retention, and worker voice, disaggregated for equity.

Universities and colleges should become lifelong capability institutions. This does not mean replacing degrees with fragments. It means providing multiple re-entry points, short modules linked to rigorous programs, recognition of experiential learning, public seminars, alumni learning access, and partnerships with employers and communities. Science and engineering education should include communication, ethics, uncertainty, data and media literacy, cultural understanding, and the capacity to explain evidence to non-specialists.

Schools should prepare young people for lifelong learning without shifting adult anxieties onto children. Foundational knowledge matters. So do curiosity, explanation, metacognition, cooperation, manual and artistic competence, and the disciplined use of digital tools. Students should encounter problems that require evidence, revision, and public contribution. AI literacy should include what systems can do, why outputs can be unreliable, how data and labour underpin them, and when non-use is appropriate.

Community organizations, libraries, unions, professional associations, health services, and cultural institutions are essential because trust and relevance are local. They can convene multilingual learning, provide low-stakes practice, connect residents with specialists, and reach adults alienated by schooling. Programs should compensate community expertise and avoid extracting stories without benefit.

Evaluation should operate at five levels. Access indicators include participation, cost, time, accommodation, connectivity, and representation. Learning indicators include knowledge, reasoning, confidence calibration, and demonstrated skill. Transfer indicators examine performance in authentic or simulated novel situations. Agency indicators include decision quality, mobility, voice, and ability to obtain services. Reciprocal and system indicators include mentoring, shared resources, process improvements, safety, trust, and reduction of unequal outcomes. Longitudinal follow-up is necessary because a short-term gain may not survive changing contexts.

Authentic assessment can include portfolios, demonstrations, scenario judgments, teach-back, verified workplace performance, and community projects. Self-report is useful for meaning and confidence but should not stand alone. Evaluation must also monitor harms: surveillance, exclusion by automated assessment, credential inflation, unpaid training, cognitive overload, and widening gaps between those with and without discretionary time.

A feasible policy sequence has seven steps: establish a cross-sector capability council; map existing learning assets and gaps; define a portable capability and recognition framework; fund demonstration sites serving different life stages; require equity and worker-participation plans; evaluate mechanisms and outcomes independently; and scale only those components supported by evidence. The aim is not one national curriculum for every life. It is interoperable public infrastructure that allows relevant, culturally responsive pathways while protecting common standards of evidence, safety, and rights.

DISCUSSION

The five cases support a common pattern without proving universality. BRAC shows that literacy becomes transformative when it names lived reality and supports collective voice. AI-related workplace learning shows that capability renewal must accompany technology deployment and be governed as a shared responsibility. Canada's Skills for Success demonstrates the value of a common language for transferable skills while revealing the need to connect assessment with recognition and mobility. Media and AI literacy demonstrate

that contemporary learning must include source judgment and networked reciprocity. Integrated health, economic, and cultural literacy shows why authentic life problems rarely respect program silos.

Together these cases suggest that continuous learning should be designed as an ecology. Individuals bring biography, motivation, identity, and prior knowledge. Educators provide dialogue, structure, feedback, and disciplinary standards. Employers shape time, tasks, incentives, and mobility. Technology mediates access and information. Public institutions determine rights, recognition, and resource distribution. Communities provide trust, language, and reciprocal practice. Failure in any layer can interrupt the cycle.

For a reason-driven scientific culture, the framework has a further implication: scientific living is not memorizing scientific facts. It is the habit of proportioning confidence to evidence, distinguishing observation from inference, seeking disconfirming information, understanding uncertainty, and revising action when results change. These habits must be taught through meaningful problems and protected by institutions that reward candour. Otherwise, technically advanced societies can remain epistemically fragile.

Continuous learning as a rights-based public commitment

The case for policy is not exhausted by productivity. Article 26 of the Universal Declaration of Human Rights recognizes a right to education directed toward the full development of the human personality and the strengthening of respect for human rights and fundamental freedoms [25]. Article 13 of the International Covenant on Economic, Social and Cultural Rights similarly connects education with dignity and effective participation in a free society [26]. These instruments do not, by themselves, create an unlimited and identical legal entitlement to every form of adult training. Nevertheless, their purposes become difficult to realize if meaningful education effectively ends in youth while technology, work, health systems, and civic information continue to change throughout adulthood. UNESCO's 2015 Recommendation on Adult Learning and Education accordingly describes adult learning as an integral part of the right to education and as a building block of learning societies [27].

Alam's framework provides a theoretical justification for translating that principle into policy. If people must repeatedly interpret new systems to exercise work, health, cultural, economic, and political agency, then access to relevant learning is an enabling condition for the exercise of other rights. A person unable to understand a digital benefits system, health instruction, employment contract, or synthetic political message may formally possess rights while lacking practical capability to use them. Continuous learning should therefore be treated as progressively realizable social infrastructure: states should establish reasonable guarantees of availability, accessibility, acceptability, adaptability, non-discrimination, and public accountability, while allowing plural forms of provision.

This rights framing changes the burden of explanation. Instead of asking only why an individual failed to reskill, institutions must ask whether learning was affordable, linguistically and culturally accessible, compatible with work and care, supported for disability, protected from surveillance, and recognized in practice. UNESCO reports persistent exclusion of migrants, rural residents, older people, prisoners, and people with disabilities from adult learning [28]. Universal policy must therefore be combined with proportionately greater support for groups facing accumulated disadvantage. Otherwise, lifelong-learning language can legitimize inequality by offering nominal opportunity while distributing usable time, guidance, and recognition according to existing privilege.

Rebuilding society through a learning society

The idea of a learning society extends beyond a nation with many schools or online courses. It denotes a social order in which families, workplaces, libraries, municipalities, universities, professional bodies, cultural organizations, and public services are connected as sites of inquiry and capability development. Knowledge moves in more than one direction: scientific and professional expertise remains indispensable, but institutions also learn from workers, patients, elders, newcomers, Indigenous knowledge holders, artisans, and communities. Reciprocity makes this circulation visible and prevents participation from becoming tokenistic.

Such an ecology can contribute to rebuilding societies damaged by polarization, displacement, inequality, public-health crises, technological disruption, or declining institutional trust. Rebuilding does not mean restoring an imagined harmonious past. It means increasing society's capacity to diagnose problems together, preserve valuable knowledge, correct injustice, deliberate across difference, and undertake coordinated action. Continuous learning can strengthen social cohesion when learners cooperate on consequential tasks and encounter one another as contributors rather than stereotypes. It can support democratic resilience when citizens learn to verify information, understand institutions, disagree without dehumanization, and revise positions in response to evidence.

The policy claim is consequently both preventive and generative. Learning systems can reduce vulnerability to fraud, unsafe work, misinformation, preventable illness, and exclusion. They can also generate innovation, cultural creation, entrepreneurship, environmental stewardship, and community leadership. These wider public returns justify shared investment even where a narrow calculation cannot assign benefits to a single employer or learner. A learning guarantee should be understood alongside health, libraries, digital connectivity, and civic infrastructure, with local experimentation and independent evaluation rather than a centralized prescription of belief.

Ethical and moral renewal

Continuous learning is not automatically moral. Sophisticated knowledge can be used to manipulate, exploit, surveil, or destroy. A capable learner may become a more effective producer of misinformation; an innovative organization may externalize harm. Alam's theory therefore requires an explicit ethical test: capability should enlarge agency while respecting truthfulness, human dignity, justice, care, reciprocity, non-maleficence, responsibility to future generations, and the freedom of others. These values are not ornamental additions after technical training. They guide which problems deserve attention, what evidence may ethically be collected, who bears risk, and how benefits are distributed.

"Revival" should not imply imposing one religious, cultural, or ideological code. In plural societies, moral learning should draw on overlapping human values and create reasoned dialogue among traditions. Learners need opportunities to examine ethical dilemmas, hear affected communities, identify conflicts of interest, anticipate unintended consequences, and justify action publicly. Elders and cultural institutions can preserve memory and wisdom; young people can expose new harms and possibilities; scientific inquiry can test factual claims; human-rights principles can protect dignity across difference. The aim is moral agency rather than obedience.

This ethical dimension also disciplines technological policy. AI literacy should include fairness, privacy, explainability, environmental cost, labour conditions, authorship, accountability, and the option to refuse inappropriate automation. Workplace learning should not prepare people merely to comply with unsafe intensification. Health literacy should not shift responsibility for inaccessible systems onto patients. Financial literacy should not excuse predatory products. A morally serious learning society redesigns institutions as well as individuals.

Critical limitations and risks

The rights and rebuilding arguments must not be overstated. Education cannot substitute for income security, fair labour law, healthcare, housing, democratic institutions, peace, or regulation of harmful technologies. Some problems are caused by concentrated power rather than insufficient knowledge. The language of resilience can unjustly ask harmed communities to adapt to conditions that should be changed. Similarly, moral education can become paternalism, nationalism, or censorship when authorities control acceptable conclusions.

There are practical limits. Adults have finite time and legitimate needs for rest, care, privacy, play, and non-instrumental life. Continuous learning should never mean continuous compulsory assessment. Digital delivery can exclude people, expose personal data, and fragment attention. Microcredentials may create confusing markets or weaken coherent expertise. Employer-funded programs may privilege immediate firm needs over

portable capability. Community reciprocity may become uncompensated labour. These risks require voluntary participation where possible, paid learning time, data minimization, independent quality assurance, portable recognition, professional standards, and avenues for learner appeal and co-governance.

Finally, this article's own evidence remains limited. The cases are purposive, partly institution-reported, and interpreted through a framework developed by the author. They cannot establish causal superiority, cross-cultural universality, or cost-effectiveness. The proposed rights orientation is a normative interpretation grounded in international education principles, not a claim that every jurisdiction already recognizes a freestanding, judicially enforceable right to lifelong learning. Comparative, longitudinal, participatory, and economic research must test outcomes and examine whether the framework reproduces assumptions that do not travel across cultures.

Future research should develop validated measures for each stage and condition; compare integrated and single-domain programs; examine reciprocity as a mechanism of retention and community diffusion; test the framework across age groups and cultural settings; and calculate distributional effects, not only average returns. Participatory research is especially important because learners should help define what capability and agency mean in their circumstances. A theory concerned with empowerment would contradict itself if evaluation silenced those it claims to serve.

CONCLUSION

Continuous learning is becoming the practical means by which people remain capable, healthy, employable, culturally connected, and democratically awake amid technological and social change. The requirement is not endless consumption of courses. It is a supported cycle through which consequential encounters are critically interpreted, integrated with experience, converted into competent action, shared for social benefit, and renewed.

Alam's Continuous Learning Framework brings this cycle together with six interdependent capability domains and four enabling conditions. It treats employability as important but situates work within the larger purposes of human dignity, scientific reasoning, health, economic agency, culture, and citizenship. Its policy value lies in connecting program design with measurable mechanisms while making institutional responsibility visible.

The implications extend beyond adaptation to the next machine. New technologies can expand diagnosis, communication, accessibility, scientific discovery, and creative expression, but they can also displace work, automate prejudice, intensify surveillance, exhaust attention, and industrialize deception. A better world will not emerge from innovation alone. It depends on people who can understand technological systems, question their purposes, imagine alternatives, solve problems collaboratively, and insist that human judgment remains accountable for human consequences.

Continuous learning can nurture creativity by enabling people to combine knowledge across disciplines, cultures, generations, and forms of experience. It can strengthen problem-solving by joining evidence with empathy, experimentation with reflection, and specialist expertise with local understanding. Creativity in this sense is not novelty for its own sake; it is the responsible generation of possibilities that improve life without concealing costs or transferring harm to others. Problem-solving is not merely technical optimization; it includes defining the right problem, listening to those affected, learning from failure, and deciding what should not be built.

The ultimate outcome should also include human flourishing. "Happy living" is academically understood here not as constant pleasure or compulsory optimism, but as the opportunity to live with health, meaning, belonging, curiosity, cultural expression, moral purpose, loving relationships, useful contribution, and reasonable freedom from fear and humiliation. Learning can support such well-being when it increases competence and choice without colonizing every hour of life. A learning society must protect leisure, contemplation, art, family, community, nature, and the right to rest alongside productive development.

The framework now requires disciplined empirical testing. Researchers should challenge its propositions, specify where they fail, and compare it with alternatives. Policy-makers can nevertheless use it as a provisional, rights-oriented design heuristic: begin with real human problems; guarantee equitable access; join critical understanding to authentic practice; integrate ethical inquiry; recognize capability portably; protect privacy, rest, and pluralism; and create opportunities for learners to contribute.

A society that builds these conditions does more than prepare people for technological change. It develops the collective intelligence to direct change toward dignity, justice, creativity, peace, sustainability, and shared well-being. Continuous learning then becomes both a personal practice and a public promise: that people at every age will have meaningful opportunities to understand their world, renew their capabilities, care for one another, and participate in building a wiser, fairer, and happier human future.

TABLE I. COMPARATIVE THEORETICAL CONTRIBUTIONS

Framework	Primary focus	Contribution to continuous learning	Limitation addressed here
Alam	Agency through recursive lifelong capability	Links encounter, critical interpretation, situated action, reciprocity, and re-engagement	Requires empirical validation across cultures and domains
Dewey	Reconstruction of experience	Explains continuity, inquiry, and growth	Experience may reproduce habit without critical analysis
Freire	Conscientization and praxis	Connects dialogue, power, reflection, and action	Must be operationalized without reducing emancipation to a score
Super	Life-span and life-space career development	Locates learning in changing roles and transitions	Stage language may appear too orderly for precarious careers
Gottfredson	Circumscription and compromise	Explains constrained aspirations and perceived accessibility	Can understate collective action and changing institutions
Wlodkowski	Culturally responsive adult motivation	Makes inclusion, meaning, attitude, and competence designable	Requires local cultural interpretation

TABLE II. PROGRAM DESIGN AND EVALUATION MATRIX

Element	Design question	Illustrative indicators
Encounter	Is the problem consequential and learner-recognized?	Relevance; problem ownership; participation
Critical interpretation	Can learners examine evidence, assumptions, power, and uncertainty?	Source evaluation; explanation; confidence calibration
Situated integration	Is new learning connected with prior knowledge and context?	Transfer to a related novel task; culturally meaningful explanation
Capability-	Can learners perform or decide	Observed performance; quality; safety; decision

producing action	reliably?	accuracy
Reciprocal contribution	Can learners strengthen others and systems?	Mentoring; teach-back; shared resources; process improvement
Re-engagement	Does action create further inquiry and development?	Subsequent learning; revised goals; sustained practice
Enabling conditions	Are access, relevance, recognition, and reciprocity present?	Cost/time barriers; accommodation; portable recognition; equity gaps

Ethical Approval

Not applicable. This conceptual article did not involve human participants, animals, identifiable private data, or intervention research.

Data Availability

No new dataset was generated. All materials analysed are publicly available in the works and institutional sources listed in the references.

Conflict of Interest

The author declares no conflict of interest. Because the article develops a theory bearing the author's name, readers should treat authorship as an intellectual interest and evaluate all claims through independent scholarship and empirical testing.

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Author Contribution

Dr. Matiul Alam is responsible for the conception of the framework, interpretation, manuscript development, and final approval. Any editorial or technological assistance used in preparing a submission should be disclosed to the journal in accordance with its current policy.

Limitations

The cases are illustrative and rely partly on organizational reporting; they do not establish causal effects or universal applicability. The theory requires cross-cultural operationalization, independent validation, and longitudinal comparison with alternative models.

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