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HUMAN-CENTRED AI LITERACY IN COMMUNITY LEARNING: A FRAMEWORK FOR VERIFICATION AND INDEPENDENT TASK PERFORMANCE

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Abstract

Background: Community learning programmes may introduce generative AI without establishing whether participants can evaluate outputs or perform tasks independently. **Aims:** To develop a community teaching framework connecting AI use with verification and independent task performance. **Review Method:** A purposive reading of three official educational and accessibility resources informs conceptual design. No participant data, systematic review, or intervention results are claimed. **Results and Conclusion:** The proposed sequence links task definition, assisted production, explicit correction, and unaided transfer. Demonstrable judgement is distinguished from generated output volume. Effects depend on accessible reference materials, facilitator capability, and opportunities to practise. **Contribution:** The article offers operational definitions, a teaching example, assessment indicators, and testable propositions. The framework remains unvalidated.

Keywords: AI literacy; community learning; verification; adult education; independent performance.

1 INTRODUCTION

An adult learner may produce an attractive letter with AI yet struggle to identify an incorrect name or unsupported statement in the result. For a community education programme, this distinction matters: a completed output is observable, whereas the learner's ability to judge it is less visible. If evaluation rewards output quantity, teaching can encourage dependency even while reporting apparent progress. The question addressed here is how a short community programme can develop judgement alongside tool familiarity.

UNESCO's guidance frames educational AI use around human agency and appropriate safeguards (Miao & Holmes, 2023). Its recommendation on open educational resources also addresses inclusive access and adaptation (UNESCO, 2019). These provide normative starting points, rather than evidence that a particular local intervention succeeds. This article contributes a practical sequence linking bounded tasks to verification and transfer, with explicit conditions under which the sequence might fail.

2 CONCEPTUAL FOUNDATION

AI literacy is defined here as the ability to make and explain decisions about using generated material within a bounded task. It includes recognising when an output requires checking, choosing a suitable reference, and deciding when tool assistance is inappropriate. Prompt fluency is related but distinct: an individual can obtain fluent text without understanding its factual commitments. This distinction allows a community programme to specify a learning objective that is meaningful even when particular products or interfaces change.

The framework treats learner agency, instructional access, and task independence as separate design concerns. Miao and Holmes (2023) provide a human-centred educational starting point; UNESCO (2019) addresses reusable and adaptable learning materials. Neither source establishes that the proposed sequence works. The analytical step taken here is to define the evidence a facilitator would need before interpreting a polished output as learning. Independence means completing a comparable task under a stated assessment condition, not permanent avoidance of AI.

Table 1. Proposed operational definitions

Construct	Meaning in this article	Observable example
Task ownership	The learner identifies the intended reader, required facts, and unacceptable errors.	A short task brief in the learner's own words.
Verification judgement	The learner connects a factual claim with an appropriate reference.	A correction accompanied by a reason and source.
Accessible participation	The required learning actions can be completed through a usable route.	An equivalent printed, verbal, or digital exercise.
Independent transfer	The learner performs a new but comparable task without AI assistance.	An unaided response assessed with the same rubric.

The definitions in Table 1 specify the analytical objects for this framework. They are proposed working definitions rather than established measurement scales. A future study should examine whether participants and assessors interpret them consistently before combining them into a score.

3 REVIEW APPROACH

This is a conceptual design article based on a small purposively selected documentary corpus. Three sources were selected for complementary functions: educational AI governance, reusable learning resources, and digital accessibility. Official source and publication details were checked online during preparation. The analysis asked what each source implies for learner agency, access, and assessment, then used those questions to construct a proposed teaching sequence.

Selection was relevance based and not exhaustive. No database search protocol, participant recruitment, interviews, or statistical analysis was conducted. There was no independent coding or formal evidence grading. The resulting framework is the article's analytical proposal, not a framework directly validated by the cited organisations. Indonesia is a prospective application setting; no Indonesian participant outcomes are claimed.

Table 2. Documentary corpus and analytical role

Source	Type	Role in the synthesis	Inference limit
Miao and Holmes 2023	Educational AI guidance	Normative starting point for human agency and safeguards.	Not a trial of this programme.
UNESCO 2019	Open educational resource recommendation	Rationale for adaptable learning materials.	Does not validate a particular worksheet.
W3C 2023	Digital accessibility recommendation	Reference for checking digital content requirements.	Not proof of whole-programme accessibility.

The analysis proceeds from construct definition to a proposed sequence, followed by consideration of failure conditions and measurement choices. Source statements supply context; the sequence, tables, examples, and propositions are analytical proposals developed in this manuscript. No search-completeness count, independent coding agreement, or causal estimate is reported. References should be checked against the full original documents during author review.

4 INTEGRATED CONCEPTUAL FRAMEWORK

The proposed sequence begins with a task the learner can describe without technical vocabulary, such as preparing a community meeting invitation from a supplied fact sheet. Before AI use, the participant identifies required facts, intended readers, and unacceptable errors. This initial specification preserves a reference against which later outputs can be assessed.

During supported production, the learner may request an AI draft but must mark every externally checkable claim. A supplied authoritative fact sheet allows verification without requiring unlimited internet access. Participants distinguish correction of facts from stylistic preference, explaining at least one decision to retain, modify, or reject generated content.

The final stage repeats a comparable task without AI. This transfer check tests whether the participant can perform the underlying activity rather than operate a familiar prompt. It should use new facts of similar difficulty so that memorisation does not substitute for judgement.

Table 3. Proposed sequence and responsibilities

Stage	Task	Responsible role	Expected evidence
Define	State facts, audience, purpose, and boundaries before generating text.	Learner with facilitator clarification.	A usable task brief.
Produce	Request a bounded draft using fictional or public inputs.	Learner; tool access remains optional.	Draft with checkable claims marked.
Verify	Compare the draft against supplied authoritative material.	Learner explains; facilitator checks reasoning.	Correction log distinguishing fact and style.
Transfer	Repeat a comparable activity without assistance.	Learner assessed independently.	An unaided artefact and scored explanation.

Table 3 links each stage to a responsibility and an observable record. The sequence is intended to expose a missing connection, rather than imply that completing a form guarantees an outcome. Movement between stages may be iterative. Where an essential condition is absent, the appropriate decision is to repair that condition or narrow the scope before expansion.

5 OPERATING MECHANISMS

Accessibility should be planned before the first session. For digital materials, WCAG 2.2 provides testable accessibility criteria (World Wide Web Consortium, 2023). The proposed programme additionally offers printed fact sheets, shared-device participation, and verbal explanations where appropriate. These delivery choices are design proposals; they do not establish accessibility conformance.

Facilitators should demonstrate an incorrect AI output and model how to challenge it. Learners should practise with fictional or public information rather than personal records. A participant who cannot access an AI service should still complete verification and transfer exercises. This prevents paid access or device ownership from determining whether someone can demonstrate the learning objective.

Table 4. Mechanisms proposed for examination

Mechanism	Analytical function	Required condition
Explicit specification	Prevents a plausible output from silently redefining the task.	Learners must identify required facts before seeing a draft.
Explained correction	Makes the basis of acceptance or rejection observable.	A source must support the correction, not merely disagree with the tool.
Independent repetition	Distinguishes tool operation from retained task capability.	Comparable difficulty and clear assistance rules are needed.

Consider a fictional learning group preparing an invitation from a supplied meeting sheet. The sheet contains a date, venue, contact role, and access arrangement. A sample AI draft introduces a convenient but unsupported venue detail. Learners identify which details can be retained and which need correction. The task does not require them to disclose a real address or create an account, and a printed sample allows participation without a device.

A facilitator then provides different meeting facts and asks for an invitation without AI. A learner who corrects the first draft but repeats the unsupported detail in the transfer task has demonstrated partial performance, not mastery. The appropriate response is targeted practice and explanation. This hypothetical example illustrates the proposed assessment logic; it is not evidence from an implemented class.

6 PROPOSITIONS FOR EMPIRICAL TESTING

The propositions below describe relationships that a future study could examine. Their numbering supports discussion and does not indicate a hierarchy of importance. They are not hypotheses tested by this manuscript, and no effect size or statistical significance is implied.

P1. Verification practice is more likely to support independent performance when learners must explain corrections rather than merely accept a model answer.

P2. The value of AI-supported production is conditional on the availability of accessible reference material and adequate facilitator feedback.

Table 5. Additional propositions and possible tests

ID	Proposed relationship	Possible observation
P3	Transfer gains will be smaller when the assessment repeats the same facts used in practice.	Compare new-fact and repeated-fact transfer tasks.
P4	Accessible reference materials will reduce the extent to which device access determines assessed performance.	Compare task completion across access routes.
P5	Confidence will be a poor proxy for capability where unsupported factual claims are not penalised.	Examine confidence alongside correction accuracy.

A useful test would specify a plausible competing explanation and seek evidence that could weaken the proposed relationship. Comparison conditions, timing, and assistance received should be described before interpreting an observed difference. A finding inconsistent with a proposition would require revision of the framework, not reinterpretation of every outcome as support.

The appropriate unit of analysis may be a task episode, a decision, or a programme cycle. Future researchers should choose that unit explicitly and keep it consistent across measurement and interpretation. Repeated observations from the same person or organisation should not automatically be treated as independent evidence.

7 IMPLEMENTATION PATHWAY

The pathway in Table 6 is a proposed pilot design rather than a record of completed implementation. It identifies who would perform each task and what evidence should be available before proceeding. Local organisers should adapt the sequence to their authority, resources, participant needs, and responsibilities.

Table 6. Staged implementation proposal

Stage	Proposed task	Responsible role	Evidence before proceeding
Scope	Select one low-risk community writing task.	Programme lead	A fact sheet and an explicit learning objective.
Prepare	Check facts, formats, task difficulty, and expected errors.	Facilitator and accessibility reviewer	Equivalent digital and non-digital materials.
Demonstrate	Explain a flawed output and show a reasoned correction.	Facilitator	Learners can distinguish factual and stylistic changes.
Practise	Allow supported work with explanation and feedback.	Learner and facilitator	A correction log with reasons.
Assess	Use a new task without assistance and a later follow-up.	Assessor	Task artefact, assistance record, and rubric notes.

A pilot should begin with a bounded scope that can be reviewed without unnecessary cost or disruption. The coordinator should record deviations from the plan, including inaccessible activities, unavailable resources, and support that exceeded expectations. These records help explain why an apparently suitable design may work differently across settings.

Expansion should depend on a reasoned review of evidence and unresolved barriers. Completion of the pathway does not itself establish effectiveness. Stopping or revising a pilot can be appropriate when its objective cannot be reached under the available conditions.

8 EVALUATION AND MEASUREMENT

A future pilot should separate the person designing the task from the person scoring it where resources permit. The rubric should be tried on several fictional responses before use, with disagreements discussed and changes recorded. A second rater would add information about consistency, but no such reliability exercise has been completed for this article. Evaluation should report attrition and inaccessible tasks as well as completed assessments.

Table 7. Proposed indicators and interpretation limits

Dimension	Operational question	Potential evidence	Interpretation limit
Task completion	Required facts present and unsupported additions identified.	Independent review of the task sheet and response.	Fluency alone may conceal inaccuracies.
Verification	Correction linked to the supplied reference.	Short explanation and marked claim.	A copied correction may not reflect judgement.
Transfer	Comparable task completed without AI assistance.	New-fact task under declared conditions.	Different difficulty can distort comparison.
Calibration	Confidence considered alongside factual performance.	Brief confidence response plus rubric score.	Confidence is not an outcome substitute.
Access	Ability to complete the objective through available formats.	Task completion by access route.	Do not interpret missing participation as inability.

Any evaluation involving people or identifiable records needs an appropriate protocol, permissions, and a locally relevant ethics determination before collection. This article reports no such collection. A future report should describe missing observations, participation barriers, and the conditions of assessment, rather than presenting completed cases as if they represented everyone intended to benefit.

9 DISCUSSION AND LIMITATIONS

The proposed contribution is a change in the unit of attention: the learning episode is assessed through decisions and explanations, rather than through the apparent sophistication of the final document. This can make modest exercises more educationally useful than elaborate demonstrations. A learner who rejects an unsupported sentence for a clear reason may provide stronger evidence of judgement than one who submits a polished page without checking it.

Several alternative explanations would remain in a future pilot. Better results might reflect extra facilitator attention, additional reading time, or greater familiarity with the task rather than the verification sequence itself. A comparison should therefore describe time on task and support received. A delayed assessment is important because immediate repetition can capture short-lived recall. Assessors should also record permitted assistance so that an unaided outcome is not inadvertently measured under mixed conditions.

The design has limits. It addresses bounded document tasks and does not support extrapolation to medical, legal, or other high-stakes judgement. Reference materials can be incomplete, while an apparently authoritative source can be misunderstood. Facilitators need a route to correct their own errors. Expanding the programme before these conditions are understood risks scaling a weak assessment routine. The framework should be revised in response to observed difficulties rather than treated as a fixed certification model.

PROGRAMME IMPLICATIONS

For a learning provider, the practical implication is to budget for feedback rather than only tool access. A facilitator needs time to read explanations and identify why a correction was made. A certificate based solely on attendance would describe participation, while one describing assessed capability would need a defined task and transparent criteria. These products should not be treated as interchangeable. Community partners can help choose meaningful tasks, but assessors must retain a way to record an incorrect answer without pressure to report universal success.

The documentary basis is limited to a small purposive corpus of official resources. It supports a normative and analytical design, not an exhaustive account of the research literature. Additional peer-reviewed studies, local evidence, and critical author review are needed to assess novelty and refine the proposed constructs. Cross-setting applicability remains an open question.

10 CONCLUSION

Community AI literacy can be designed around task ownership, verification, and independent transfer. The proposed framework makes judgement visible and preserves a route for learners with limited digital access. Its usefulness remains an empirical question. A pilot with transparent assessment and delayed follow-up is required before making claims about effectiveness, equity, or scalability.

PRIORITIES FOR FURTHER RESEARCH

The next research priority is a small feasibility study of the task and rubric before an effectiveness comparison. It should examine whether learners understand the instruction, whether assessors can distinguish factual correction from stylistic preference, and whether equivalent access routes preserve the intended objective. A later study could vary the requirement to explain corrections while holding task exposure approximately constant. Follow-up should use unfamiliar facts and document assistance. These stages would provide different kinds of evidence; a feasible exercise would still not establish durable or general AI literacy.

DECLARATIONS

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