

Human-in-the-Loop Assessment

Category: Artificial Intelligence in Education

Human-in-the-loop assessment is an approach in which artificial intelligence or automation supports selected assessment tasks while a suitably qualified person retains meaningful responsibility for interpreting evidence and making, confirming or revising consequential judgements. Human involvement may occur in design, scoring, feedback, review and appeals.

The presence of a person does not by itself create effective oversight. The reviewer needs relevant evidence, assessment expertise, sufficient time and genuine authority to question or override the system. The loop is completed when human review also informs subsequent assessment and system improvement ([U.S. Department of Education, 2023](#)).

Human Oversight Cycle

1. **Define authority:** Specify which decisions AI may support and which require accountable human approval.
2. **Inspect evidence:** Examine the learner's work, criteria, model output, uncertainty and relevant context.
3. **Review exceptions:** Prioritise ambiguous, atypical, high-impact and contested cases for expert consideration.
4. **Decide and explain:** Apply professional judgement, record the rationale and communicate an accessible outcome.
5. **Monitor and improve:** Audit errors and unequal effects, then revise the assessment, workflow or system.

Examples in Practice

A university may use AI to propose scores and comments for low-stakes writing. The lecturer reviews a representative sample, all low-confidence responses and any student appeal against the rubric and original work. She changes unsupported scores, records recurring errors and decides the final outcome rather than merely endorsing the output.

Why It Matters

Meaningful human oversight can protect validity, fairness and accountability while retaining useful automation. It can fail when reviewers are overloaded, cannot understand the model or routinely accept its recommendation. Institutions must therefore evaluate the combined human–AI decision process, not the system in isolation ([Dorsey & Michaels, 2022](#)).

Further Reading

6. U.S. Department of Education, Office of Educational Technology. (2023). [Artificial intelligence and the future of teaching and learning](#). U.S. Department of Education.
7. Dorsey, D. W., & Michaels, H. R. (2022). [Validity arguments meet artificial intelligence in innovative educational assessment](#). *Journal of Educational Measurement*, 59, 267–271.
8. Miao, F., & Cukurova, M. (2024). [AI competency framework for teachers](#). UNESCO.

Related Terms: Automated Assessment | Human-Centred AI in Education | Assessment Validity | Algorithmic Bias