TEACHER-FACING FRIDAY DESIGN

From Answers to Processes: Designing Human-AI Co-Construction

CAS Human-AI Collaboration | Module 1 | Unit 5

LITERACY	COLLABORATION MOVE	CONTACT TIME	CHALLENGE
System, with Interaction	**Co-construction**	**365 minutes**	**Co-Construction Workflow**

Position in Module

- **Unit:** 5
- **Topic:** From Answers to Processes: Designing Human-AI Co-Construction
- **Literacy perspective:** System, with Interaction
- **Collaboration level:** Co-construction
- **Fundamentals focus:** Generative AI Fundamentals
- **Why this Friday matters:** Participants learn that a clear request can still produce weak work when execution is treated as one opaque generation step. They learn to design phases, roles, handoffs, intermediate artefacts, and checkpoints that make complex work inspectable and steerable.

Literacy Perspective

- **Primary literacy:** System
- **Secondary literacy, if any:** Interaction
- **What this literacy explains:** System Literacy explains how the arrangement of phases, roles, handoffs, state, and checkpoints shapes the outcome of human-AI work. Interaction Literacy explains how each step must express its local goal and pass useful context forward.
- **What participants should manipulate, observe, and interpret:** Participants keep an already-aligned task stable while manipulating its execution design. They compare a single-pass baseline with a staged co-construction process and observe coverage, transparency, handoff quality, error detection, coordination cost, and final artefact quality.

Collaboration Level

- **Level relation:** Co-construction
- **Collaboration move being learned:** Participants move from asking AI to produce a finished answer toward sharing construction across explicit human and AI contributions, with intermediate artefacts that either party can inspect and revise.

- **What participants should be able to do differently after this Friday:** They should be able to decompose an aligned task into purposeful phases, assign decision and production roles, define handoff artefacts, place checkpoints before errors propagate, and justify when the added process is worth its coordination cost.

Generative AI Fundamentals

This Friday should introduce decomposition as a control principle for generative AI work. The goal is for participants to understand why complex outputs often become more controllable when generation is divided into explicit intermediate steps.

- Explain that a generative model produces continuations from the current context. If a complex task is requested in one step, the model must infer hidden subgoals, order of work, evaluation criteria, and output structure at the same time.
- Show that process decomposition externalizes some of this hidden work. A plan, outline, role assignment, checklist, or intermediate draft becomes a visible representation that can be inspected, corrected, and reused as context for the next step.
- Introduce intermediate artefacts as control surfaces. Instead of treating the final output as the only result, participants should see specifications, plans, role notes, partial drafts, and decision logs as parts of the generative process that can be evaluated before continuing.
- Explain role and perspective prompting as a way of changing what the model attends to within the task. Different roles do not create independent expertise by themselves, but they can make different criteria, risks, or assumptions more salient.
- **Caveat to demonstrate:** decomposition can also propagate early errors. If a flawed plan, wrong assumption, or weak intermediate artefact is passed forward as context, later steps may elaborate the error with increasing confidence, so checkpoints must inspect intermediate state before continuing.
- **Emphasize the central learning point for Unit 5:** co-construction improves control because it turns one opaque act of generation into a sequence of inspectable, steerable steps.

Recurring Agentic Coding Demonstration

Use one already-clarified development task with fixed acceptance criteria. In the baseline, ask a coding agent to implement the task in one pass. In the target condition, require a repository-informed plan, a scoped implementation phase, a separate test artefact, and an integration note before completion. Preserve the task brief, repository state, model or agent, permissions, and total work window as far as practicable. Compare the plan, diffs, tests, review notes, and final result to identify which intermediate artefacts created useful control surfaces and which merely added ceremony. Transfer the same process logic to reports, policies, service designs, analyses, and other multi-part professional work.

Shared Classroom Co-Construction Case

Use one already-aligned fictional task so the Friday does not repeat Unit 2's clarification work.

Default task:

> **Create a two-page onboarding guide for a fictional customer-service team adopting a new ticket-triage procedure. The guide must help new staff classify requests, apply escalation rules, record decisions, and know when to ask a supervisor. Audience, scope, required sections, tone, and acceptance criteria are supplied in advance.**

Prepare one fixed case pack containing:

- an aligned task brief with audience, objective, non-goals, constraints, required sections, and conditions of satisfaction
- a short source pack describing the triage categories, escalation rules, common edge cases, and terminology
- a one-step baseline request that asks for the complete guide
- a target process template with phases for coverage mapping, section drafting, perspective checks, integration, and final assembly
- handoff templates that record input, output, unresolved question, decision made, and next owner
- a comparison rubric for coverage, internal consistency, traceability, usability, and coordination cost
- one optional flawed intermediate artefact that contains a plausible but incorrect escalation assumption for the error-propagation exercise

Suggested roles for groups of four or five:

- **process architect:** defines phases, handoffs, and checkpoints
- **content builder:** produces the substantive sections with AI support
- **frontline-user perspective:** checks whether instructions are usable in practice
- **policy-owner perspective:** checks categories and escalation rules against the source pack
- **integrator, if group size permits:** resolves handoff issues and assembles the final artefact

The target condition may use one model across multiple sessions or several role-labelled agents. Distinct role labels do not count as co-construction on their own; control must be visible in the process, artefacts, and decisions.

Friday Activity Plan

Indicative contact time is 365 minutes, excluding breaks and lunch. Teachers may adjust durations while preserving baseline capture, process design, execution, checkpointing, comparison, and transfer.

Time	Activity	Concrete output
45 min	From answer requests to process control	Annotated process comparison and two predictions
45 min	Single-pass baseline	Baseline guide, trace, time record, and rubric scores
45 min	Designing the co-construction architecture	Target process map, role allocation, and handoff plan
65 min	Running the staged process	Coverage map, section drafts, handoff records, integrated guide
45 min	Error propagation and checkpoint test	Fault trace and revised checkpoint rule
50 min	Comparing product and process	Comparison table and provisional co-construction rule
70 min	Challenge kickoff and first process sketch	Challenge protocol, process map, prediction table, and first handoff artefact

Detailed activity blocks

1

45 min **From answer requests to process control**

Content and manipulation. Distinguish task alignment from execution design. Introduce phases, roles, handoffs, intermediate artefacts, checkpoints, and process state as control surfaces.

Method and expected observation. Contrasted walkthrough of one-step and staged work; participants predict where a complex task will lose coverage or propagate assumptions.

Concrete output. Annotated process comparison and two predictions

Tools and materials. Slides, process map, example artefacts

2

45 min **Single-pass baseline**

Content and manipulation. Run the aligned onboarding-guide task as one complete request. Do not improve the brief during the run.

Method and expected observation. Groups time-box production, preserve the output and interaction trace, and score the result before seeing the target process.

Concrete output. Baseline guide, trace, time record, and rubric scores

Tools and materials. Fixed case pack, chat interface, baseline request

3 **45 min** **Designing the co-construction architecture**

Content and manipulation. Decompose the same task into phases and define the purpose, owner, input, output, checkpoint, and handoff for each phase.

Method and expected observation. Hands-on process mapping with peer challenge: remove any step that lacks a distinct control purpose.

Concrete output. Target process map, role allocation, and handoff plan

Tools and materials. Workflow canvas, role cards, handoff template

4 **65 min** **Running the staged process**

Content and manipulation. Execute coverage mapping, drafting, perspective checks, and integration while preserving intermediate artefacts.

Method and expected observation. Role-based co-construction; expected observation is that decisions and omissions become visible earlier, but coordination work increases.

Concrete output. Coverage map, section drafts, handoff records, integrated guide

Tools and materials. Case pack, markdown workspace, chat interface

5 **45 min** **Error propagation and checkpoint test**

Content and manipulation. Introduce or inspect one flawed intermediate assumption and decide whether the designed checkpoint detects it before integration.

Method and expected observation. Controlled fault exercise followed by process repair. Groups identify the first point at which the error was observable and who had authority to stop it.

Concrete output. Fault trace and revised checkpoint rule

Tools and materials. Flawed artefact card, process map, decision log

6 **50 min** **Comparing product and process**

Content and manipulation. Compare baseline and target on coverage, consistency, traceability, usability, time, and coordination cost.

Method and expected observation. Cross-group evidence review; each group must state one improvement, one trade-off, and one step that could be removed.

Concrete output. Comparison table and provisional co-construction rule

Tools and materials. Rubric, process evidence, shared board

7 **70 min** **Challenge kickoff and first process sketch**

Content and manipulation. Select an already-aligned task, define a single-pass baseline, design a target process, and capture one first intermediate artefact or peer feasibility review.

Method and expected observation. Individual or paired coaching with a check that the chosen task is complex enough to benefit from decomposition.

Concrete output. Challenge protocol, process map, prediction table, and first handoff artefact

Tools and materials. Challenge template, workflow canvas, evidence log

Experiment Focus

- **Experiment focus:** single-pass generation versus explicit co-construction through phases, roles, intermediate artefacts, and checkpoints.
- **Primary manipulated condition:** execution design. The baseline requests the complete output in one pass; the target decomposes the same task into a documented multi-step process.
- **What remains constant across comparison:** Keep the aligned task brief, source material, intended output, acceptance criteria, model or tool where possible, available permissions, and total production window as comparable as practicable.
- **Prediction requirement:** Before both runs, identify where the baseline is expected to lose coverage or hide assumptions and which target phase or checkpoint should change that outcome.
- **Complexity threshold:** Choose a task with multiple criteria or stakeholder perspectives. A trivial task will not generate meaningful evidence about co-construction.

Observation Focus

- **Coverage:** Which required elements and perspectives appear in each condition, and where were omissions first visible?
- **Internal consistency:** Do sections, decisions, terminology, and recommendations agree across the artefact?
- **Process transparency:** Can reviewers reconstruct what was decided, by whom or by which role, from which input, and at which phase?
- **Handoff quality:** Do intermediate artefacts give the next contributor enough context without importing unresolved assumptions as facts?
- **Error detection:** Which checkpoint catches a flawed assumption, and how early does it do so?
- **Coordination cost:** How much time, duplication, or friction did the staged process add, and which steps produced sufficient value to justify it?
- **Evidence participants should capture:** fixed brief; baseline trace and output; target process map; intermediate artefacts; handoff and decision records; fault trace; time record; rubric scores; and unexpected results.
- **Interpretation participants should be prepared to make:** Explain which process elements improved control, which merely added ceremony, whether early errors propagated, and under what task conditions co-construction is worth the extra coordination.

Challenge Kickoff Deliverables

Participants must leave Friday with:

- a selected task whose objective, audience, constraints, and acceptance criteria are already aligned
- a single-pass baseline definition and comparable target process
- a target process map naming phases, roles, inputs, outputs, handoffs, and checkpoints
- a prediction table connecting each major process change to an expected effect
- a protocol draft covering the task, intended output, execution-design manipulation, constants, time comparison, evaluation criteria, and propagation caveat
- one explicit checkpoint for testing an intermediate assumption before it becomes downstream context
- **at least one first captured artefact:** baseline output, process sketch, handoff record, intermediate draft, or peer feasibility review
- a plan for recording coordination cost as well as output quality

The kickoff should already reflect the challenge-focus logic:

- **Difficulty:** A single-pass request often limits quality, coverage, and error detection even when the task itself is already clear.
- **Approach:** Redesign an already-aligned task as a multi-step process with explicit phases, roles, handoffs, intermediate artefacts, and checkpoints; compare it with a single-pass baseline and record both benefits and coordination costs.
- **Artefacts:** protocol document; prediction table; aligned brief; baseline output and trace; target process map; intermediate and final artefacts; handoff or decision records; fault trace; comparative run log; concise interpretation; and one practical co-construction rule.

Teacher Setup

Mandatory:

- one shared case pack with an already-aligned brief, source notes, one-step request, and measurable acceptance criteria
- a target process template covering phase purpose, owner, input, output, checkpoint, handoff, and unresolved questions
- role cards and a handoff-record template
- one optional flawed intermediate artefact for demonstrating propagation and checkpointing
- a comparison rubric covering coverage, consistency, transparency, usability, time, and coordination cost
- protocol, prediction, process-map, decision-log, and evidence-capture templates for the challenge kickoff
- demonstration setup for the recurring agentic coding case, if used
- a paper-and-markdown fallback so the process experiment does not depend on multi-agent or workflow features

Configurable:

- case domain and type of final artefact
- exact chat, coding, document, or collaboration tools
- whether one model is used across role-labelled sessions or several specialised agents are available
- role allocation and group size
- degree of parallel work, provided handoffs remain inspectable
- scaffolding depth and peer-feedback format
- time allocation, provided baseline and target effort are recorded and compared honestly