reDesign

Learning as creating.

Designing authentic, agency-building performance tasks.

A REDESIGN CONCEPT PAPER

Introduction.

Take a moment to imagine a creative endeavor. The production of a film. The presentation of a closing argument in a trial. The design of a new vehicle. The performance of a choreographed dance. *The creative process involves moving through a series of stages–from conceptualizing and developing an idea, to sharing it with an intended audience– that involves developing one's knowledge, skills, perspectives, and ideas, and applying them in a novel way for a specific purpose.*

Benjamin Bloom helped make this idea ubiquitous: the highest form of learning is creating.

reDesign's Learning Cycle framework was developed to make the stages of meaningful learning through inquiry–and the creative process it involves– transparent to learners.

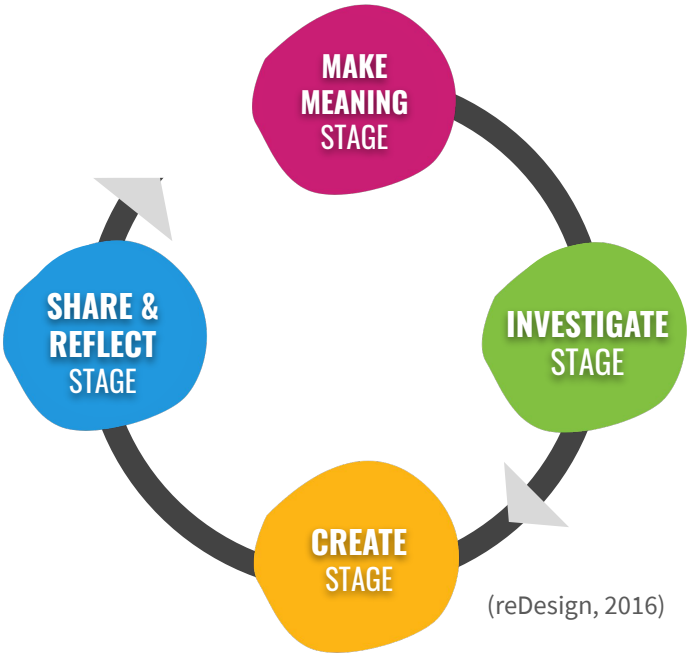
Regardless of the type of creative work a learner might undertake, learners will need to:

- *Make meaning* of the task and its context, build background knowledge, and establish a clear purpose
- *Investigate* by deepening knowledge, studying the work of others, evaluating ideas or evidence, and choosing a position or idea to develop further
- *Create* by drafting or prototyping, and refining the work using feedback and critique
- *Share and reflect* by presenting, publishing, or performing, and reflecting on the overall creative process

The journey through these stages is iterative rather than linear. One might begin drafting an outline (Create) and then discover the need for a bit more research (Investigate). Even within a stage, such as the Investigate stage, one might choose a position and begin organizing evidence, and then determine the need to rethink one's chosen position.

Rather than being prescriptive, the framework is intended to offer language and a way to conceptualize and visualize the process of *learning as creating*.

THE LEARNING CYCLE



(reDesign, 2016)

The ideas behind reDesign's Learning Cycle are not new; they are grounded in the learning sciences and in child and youth development literature. The framework can be likened to other such codified processes as the engineering design process, the design thinking process, or the 5E model for science instruction.

A deeper look at each stage.

MAKE MEANING

In the Make Meaning stage of a project or performance task, learners begin to explore a central compelling question, on their own or within their learning community. They make connections to prior knowledge and cultural frames of reference, build new background knowledge, generate their own questions based on interests and curiosities, and explore foundational concepts and ideas as they begin to engage with the related issue or topic (e.g., What can immigrant journeys teach us about the world? Are my genetics my destiny?). Learners also establish a purpose: What is it that they want to learn or be able to do as a result of their exploration?

If a specific product has been predetermined, learners would have the opportunity to explore task exemplars to enable them to visualize the goal and unpack or co-construct quality criteria.

Importantly, as learners develop greater autonomy in their learning, they themselves can define the topic of exploration and their pathway through it, making choices about which questions to pursue, which competencies to demonstrate, and which tasks they will engage in as part of their culminating work product or performance.

INVESTIGATE

In the Investigate stage, learners continue to explore questions together at increased levels of depth and complexity, in line with their purpose. They examine multiple perspectives or approaches, evaluate claims and evidence, or study the work of experts as they expand their schema to ground their continued meaning-making process.

Learners critically examine a broad range of resources to disrupt singular, dominant narratives and cultivate critical consciousness as they build knowledge of their own and others' cultural histories and identities.

Learners have the opportunity to choose a task and audience, and to begin to articulate a central message as they gather supporting ideas, details, or evidence. As learners begin to prepare to enter the Create stage, the final steps in the Investigate stage may vary: they might evaluate possibilities and choose one idea to prototype a design solution; they might work with numerical data to inform the creation of a mathematical model; or they might prepare rebuttal ideas for an upcoming debate.

CREATE

In the Create stage, learners demonstrate their new or expanded knowledge, conceptual understandings, and competencies (skills and strategies) by constructing a personally meaningful and coherent product or performance for their specific audience and purpose.

In a learner-centered community, culminating products reflect learners' values, identities, and interests, and create important opportunities for learners to make an impact in the world as they work to address the issues and topics they have investigated deeply.

SHARE & REFLECT

In the Share and Reflect stage, learners develop their communication skills and tools by sharing, publishing, or performing their work for an authentic audience. They also reflect on their learning journey with others.

Why make it visible?

TRANSPARENCY AS AGENCY-SUPPORTING

What would it be like to navigate a city without street signs, landmarks, or a map? Or walking into a library in search of a particular book, but without knowledge or understanding of the library's book-organizing system?

Making the cognitive and metacognitive processes of learning visible to learners is essential to agentic learning. Rather than waiting passively for the teacher's next set of directions, learners can visualize the journey ahead, locate themselves, continuously self-assess, and make meaningful decisions about how to navigate their own learning process and pathways.

METACOGNITIVE AWARENESS, KEY TO DEVELOPING EXPERTISE

Cognitive Apprenticeship (Collins et al., 1989) is an educational framework that offers specific insight into how we can design projects or performance tasks using the learning cycle that not only build learner agency, but also support learners' developmental journey toward building expertise:

- Make the invisible, underlying processes of the task visible
- Teach these processes explicitly in a way that builds learners' awareness
- Provide regular opportunities for practice with specific feedback, reflection, and revision
- Vary the diversity of situations in which learners engage in the task, and prompt metacognitive awareness about the common aspects in order to support transfer of learning.

REIMAGINING TASK DESIGN

While the learning cycle provides an overarching structure for learning as a creative process, how do we make the "invisible, underlying processes" of a particular project or performance task visible to learners? Is there more to this story?

In an informal study conducted in 2014, the reDesign team analyzed a collection of college freshman course syllabi to better understand college readiness expectations. The work had been commissioned by a network of high schools that was tracking the success of its graduates. In their view, far too many of their graduates were dropping out of college in their first year. They engaged reDesign to help answer the question: How can we rethink and redesign our curriculum and assessment system to more equitably prepare young people for college-level work?

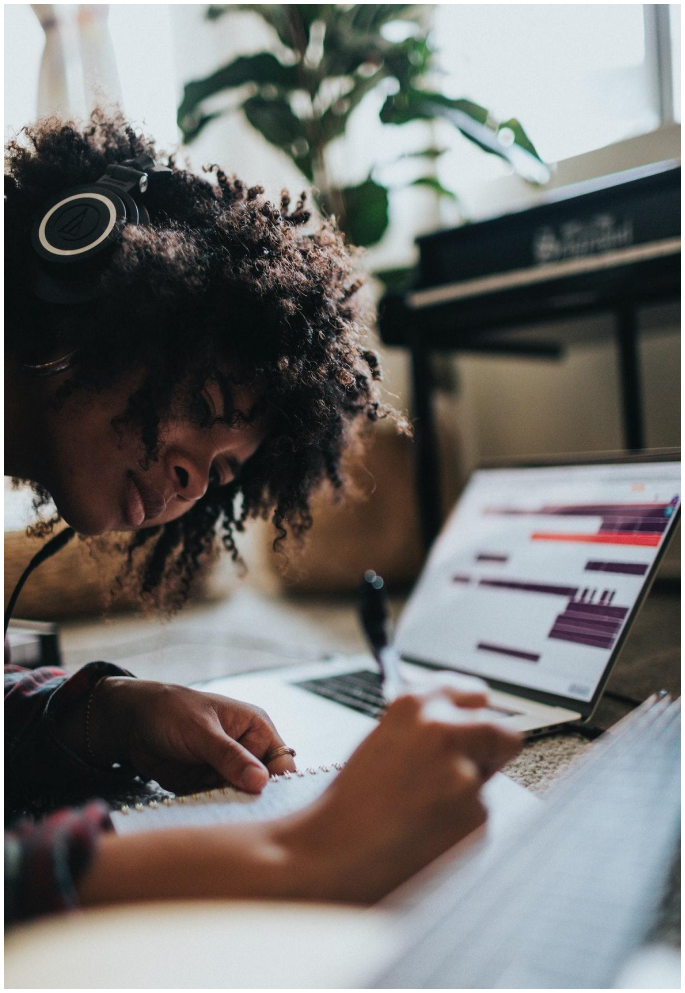
The study led to three important and surprising insights into task design.

First, there was a remarkably similar set of performance tasks that first-year college students were expected to complete. Reading, formal writing, argumentation, text-based discussions, presentations, lab investigations, and problem sets,were the dominant performance task types that trended among the syllabi of first-year coursework.

Key insights from the study.

Second, the volume of tasks was very similar–and highly demanding–regardless of the competitiveness or perceived rigor of the institution. These included an average of 5,000 pages of reading; many speaking tasks (8 or more formal presentations and as many as 75 text-based discussions); and 90-100 pages of polished writing (an average of 12 position papers, 16 lab reports, 21 problem sets, and a few research papers). Unlike the typical K-12 context, tests and exams occurred far less frequently than other tasks, with an average of 8 over the course of freshman year.

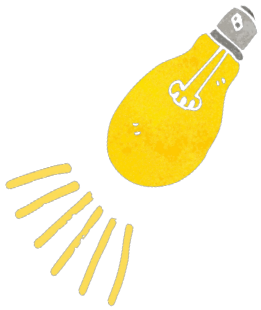
These data would enable the network's leadership team to begin to quantifying college readiness expectations, and avoid vague or generic discussions about college preparation. They could also help the team rethink its assessment system, asking: How well does our current assessment system reflect the types of work, and the volume of work, expected of first-year college students? Could we redesign our assessment system as an onramp to college readiness?



COLLEGE FRESHMAN WORKLOAD STUDY (reDesign, 2014)

5,000	PAGES OF READING
12	POSITION PAPERS
8	EXAMINATIONS
16	LAB REPORTS
90-100	POLISHED ESSAY PAGES
8	PRESENTATIONS
75	TEXT-BASED DISCUSSIONS
21	PROBLEM SETS

The underlying pattern.



In a final dimension of analysis, the reDesign team deconstructed each of the dominant college performance task types and looked for commonalities in structure, posing the question: How would experts approach these tasks? Is there an underlying pattern in the process?

These "formative tasks," as reDesign began to call them (the thinking tasks that provides a formative assessment opportunity) could help make the underlying structure of a wide range of performance tasks visible to learners–a critical design feature for supporting learners in their journey toward developing expertise.

POSITION PAPER

- ❏ Explore the genre of persuasive writing
- ❏ **Choose a topic**
- ❏ **Research the issue**
- ❏ **Determine audience**
- ❏ Choose a position
- ❏ **Find supporting evidence**
- ❏ Outline and draft
- ❏ **Give and receive feedback**
- ❏ **Revise and Edit**
- ❏ Create an executive summary

INFOGRAPHIC

- ❏ Explore the task: infographics
- ❏ Present numerical data
- ❏ Work with numerical data
- ❏ **Choose a topic**
- ❏ **Determine audience**
- ❏ **Research the issue**
- ❏ Find and analyze numerical da
- ❏ Choose a position
- ❏ Create the infographic
- ❏ **Give and receive feedback**
- ❏ **Revise and Edit**

SPEECH

- ❏ Explore the task: speech
- ❏ Choose a topic
- ❏ **Research the issue**
- ❏ **Determine audience**
- ❏ **Choose a purpose**
- ❏ **Find supporting details and evidence**
- ❏ Outline and draft
- ❏ Practice and prepare
- ❏ **Give and receive feedback**
- ❏ **Revise and Edit**
- ❏ Present

The third key insight from the study was that, across a range of seemingly very different types of tasks, there was a repeating set of underlying processes that led to the final product. Whether you're creating a position paper, an infographic, or a speech, it is important to understand the key qualities and characteristics of the task type (Explore the genre or task). In order to get started, you'll need to choose a topic, determine your audience, and engage in research to support your creative process. After the research phase, you'll put pen to paper and create an outline and draft, and so forth.

What emerged from the study was the codification of a set of transferable formative tasks that can be used to provide high-quality scaffolding for learners. This scaffolding is particularly important from an equity perspective; it lays the groundwork for well-structured and well-supported pathways for learners to develop and apply the high-order thinking skills that are essential to the investigation and creation process.

“Formative tasks:” scaffolding authentic work products.

WHY USE FORMATIVE TASKS?

The notion of “scaffolding” in K-12 educational contexts is often understood as breaking down content into small, bite-size and easily digestible parts–the simplification of complex content. However, simplifying content in one context does not enable students to work without the simplification in a different context.

Consistent with the origin of the architectural term, scaffolding is a temporary but critical structure put in place to support a developmental process, and should be removed when no longer needed. Scaffolding breaks down ways of thinking, making these transparent to learners, and teaching the processes and strategies embedded in these ways of thinking explicitly and repeatedly until learners have created effective schema. This is the essence of using formative tasks to structure the learning and creation process. As scaffolding, formative tasks:

- **Enable learners to self-monitor and reflect on their progress**: *Learners can see the specific stage they are working on within the context of the full journey*
- **Create a touchpoint for feedback and a structure for personalization** *The learning experiences (“inputs”) are flexible and can be personalized to ensure all learners complete the formative task*
- **Represent authentic evidence of learning and readiness to advance**: *Each formative task involves an output that builds toward the final product, and meets specific advancement criteria*

GENERIC FORMATIVE TASKS BY LEARNING CYCLE STAGE

MAKE MEANING
Explore the issue
Explore the task
Generate questions
Determine my purpose

Example formative tasks

INVESTIGATE
Research
Formulate a main idea
Determine my audience and format
Choose supporting details

CREATE
Outline and draft
Give and receive feedback
Revise and Edit

SHARE & REFLECT
Present, publish, or share
Reflect

MAKE MEANING STAGE

Explore the issue

Explore the task

I can **analyze exemplars** to **identify the key characteristics and quality criteria** of a [task type here.]

Generate questions

Determine my purpose

KEY SKILLS (THE "WHAT")

- ★ Analyze a text/source
- ★ Determine the key qualities of the task type or genre

KEY STRATEGIES (THE "HOW")

- ★ Connecting
- ★ Determining Importance

Deconstructing formative tasks.

Taken together, formative tasks reflect the learning and creation processes involved in developing a high-quality final product. **Each formative task purposefully builds toward the final product, and involves the application of specific skills and strategies**.

Take the example above, "Explore the task," which takes place in the Make Meaning stage of the Learning Cycle when the task is known or pre-determined (otherwise, it might take place during the Investigate stage).

Imagine a learner wants to develop a photo essay on an issue of importance in her community to help persuade others to take action. "Explore the task" is an important step in her process of creating a quality photo essay, because it involves analyzing exemplar photo essays, looking for the distinguishing features and characteristics of a quality photo essay, and determining quality criteria through a discovery process that can inform her own creative process.

Some learners may not need support to achieve this formative task; they can complete the formative task independently or with others, and advance when ready. Others may need scaffolding to engage in this analytical task. A first step is to deconstruct the formative task by identifying its required skills and strategies.

Precision matters here, because precision is essential to quality instruction, actionable feedback, and measurable growth.

For learners who need the highest level of scaffolding, a facilitator might engage in a metacognitive modeling activity, sharing their thinking process in real time while applying the skills and strategies to a related example.

For guidance on identifying key skills and strategies, and the pedagogical practices that support their development, please refer to reDesign's Concept Paper, *Learning as Developing Competency.*

Formative task as learning evidence.

STRUCTURING THE EVIDENCE

The previously described deconstruction process helps learners understand the important skills and strategies involved in completing the formative task.

But what does a finished formative task look like? How can learners engage in self-monitoring, self-assessment, and decision-making about their own learning process as they move through the learning and creative process stages?

A set of formative task organizers or templates can provide a helpful starting point for ensuring learners have a clear picture of what's coming next, and how they can demonstrate readiness to advance.

reDesign's 🛠️ Formative Task Template Set provide a generic set of student-facing organizers for each process stage. These templates are not intended to be graded; they are intended to be used "formatively;" that is, to inform feedback and responsive individualized supports. Like any quality formative assessment, they make learners' thinking and creation skills visible.

READY TO CUSTOMIZE

Formative task templates can be modified for specific developmental levels, or customized to reflect specific disciplinary content. If certain formative tasks are not part of the project as designed, such as when a particular aspect is predetermined (e.g., the audience is already established), or when learners no longer need them, they can simply be removed.

EXAMPLE "EXPLORE THE ISSUE" FORMATIVE TASK TEMPLATE

EXPLORE THE ISSUE

MY CONNECTIONS / **MY BIG QUESTIONS**

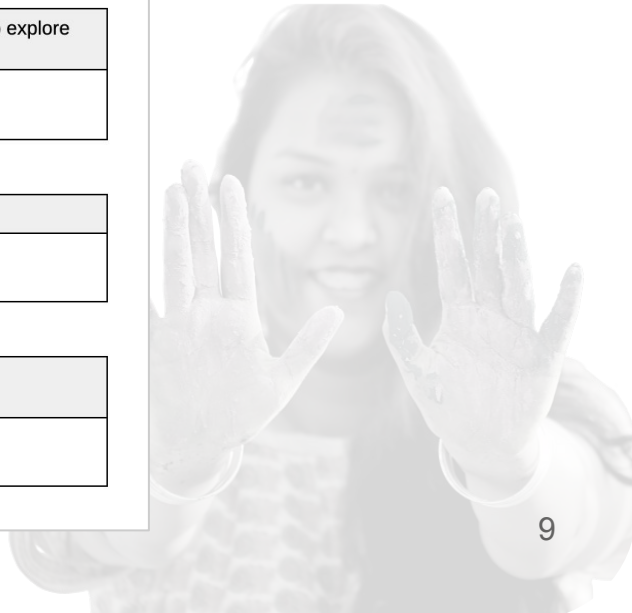
The issue/topic (compelling question) connects to my own life or interests because...	The guiding questions I am most excited to explore further are...

BEFORE/AFTER INITIAL EXPLORATION

I used to think/know...	Now I think/know...

INTEREST LEVEL

On a scale of 1 (lowest) to 10 (highest), how interesting do you find this issue/topic?	Why did you choose this rating?



EXAMPLE CUSTOMIZED FORMATIVE TASKS

ARGUMENTATIVE ESSAY

MAKE MEANING
Explore the issue
Explore the task: argumentative writing
Generate questions
Determine my purpose

INVESTIGATE
Research the issue
Determine my audience
Formulate a main idea
Gather supporting details

CREATE
Outline and draft
Give and receive feedback
Revise
Edit

SHARE & REFLECT
Present, publish, or share
Reflect

MATHEMATICAL MODELING

MAKE MEANING
Explore the issue
Explore the task: mathematical modeling
Generate questions
Determine my purpose

INVESTIGATE
Research the issue
Determine my audience
Find & organize numerical data
Analyze numerical data

CREATE
Model the data
Take a position
Give and receive feedback
Revise and Edit

SHARE & REFLECT
Share
Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

DEBATE

MAKE MEANING

- Explore the issue
- Explore the task: debate
- Generate questions
- Determine my purpose

INVESTIGATE

- Research both sides of the issue
- Choose a position
- Create arguments using facts, supporting details, data, evidence, and anecdotes
- Create the rebuttal

CREATE

- Outline and draft
- Practice and prepare
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Participate in the debate
- Reflect

ENGINEERING DESIGN

MAKE MEANING

- Explore the issue
- Explore the task: engineering design
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the problem
- Ideate
- Evaluate possibilities

CREATE

- Construct a model/prototype
- Improve the design

SHARE & REFLECT

- Share the design
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

EXPOSITORY ESSAY

MAKE MEANING

- Explore the issue or topic
- Explore the task: expository essay
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience
- Create a thesis statement
- Find and organize relevant facts, details, and explanations

CREATE

- Outline and draft
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Share Executive Summary
- Reflect

INFOGRAPHIC

MAKE MEANING

- Explore the issue
- Explore the task: infographic
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience
- Choose a position
- Work with and present numerical data

CREATE

- Outline and draft
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Share
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

PHOTO ESSAY

MAKE MEANING

- Explore the issue
- Explore the task: photo essay
- Choose a topic
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience
- Choose a position
- Take or select photographs

CREATE

- Outline and draft
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Share
- Reflect

PERSONAL NARRATIVE

MAKE MEANING

- Explore the issue
- Explore the task: personal narrative essay
- Generate questions
- Determine my audience and purpose

INVESTIGATE

- Recall the event
- Add details

CREATE

- Outline and draft
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Present, publish, or share
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

ORGANIZE AN EVENT

MAKE MEANING

- Explore the issue
- Explore the task: event planning in social action work
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience and event format
- Develop an action plan
- Enroll support

CREATE

- Mobilize the team
- Implement the plan
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Share
- Reflect

MATHEMATICAL ARGUMENTATION

MAKE MEANING

- Explore the issue
- Explore the task: mathematical argumentation
- Choose a problem
- Determine my audience and purpose

INVESTIGATE

- Gather, organize, and evaluate important information
- Apply strategies to identify solutions
- Test and validate solution

CREATE

- Outline and draft proof
- Give and receive feedback
- Revise and edit

SHARE & REFLECT

- Present mathematical argument
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

LAB REPORT

MAKE MEANING

- Explore the issue
- Explore the task: lab report
- Create a research question

INVESTIGATE

- Research the issue
- Construct a hypothesis
- Test with an experiment
- Cite sources
- Work with numerical data

CREATE

- Present the data
- Draft the lab report
- Give and receive feedback
- Revise and edit

SHARE & REFLECT

- Share/publish the lab report
- Reflect

MULTIMEDIA PRESENTATION

MAKE MEANING

- Explore the issue
- Explore the task: multimedia presentation
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience
- Choose a position
- Find supporting facts, details, data, evidence, and anecdotes

CREATE

- Outline and draft the text
- Create the presentation
- Practice and prepare
- Revise and edit

SHARE & REFLECT

- Present
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

SPEECH

MAKE MEANING

- Explore the topic
- Explore the task: speech
- Generate questions
- Determine my purpose

INVESTIGATE

- Research the issue
- Determine my audience
- Choose a position
- Choose and organize compelling details, evidence, and anecdotes

CREATE

- Outline and draft
- Practice and prepare
- Give and receive feedback
- Revise and Edit

SHARE & REFLECT

- Present
- Reflect

RESEARCH PAPER

MAKE MEANING

- Explore the issue
- Explore the task: multimedia presentation
- Generate questions
- Determine my purpose and audience

INVESTIGATE

- Research the issue
- Choose a position
- Find supporting facts, details, data, evidence, and anecdotes

CREATE

- Outline and draft
- Practice and prepare
- Revise and edit

SHARE & REFLECT

- Present
- Reflect

EXAMPLE CUSTOMIZED FORMATIVE TASKS

SOCRATIC SEMINAR

MAKE MEANING

Explore the issue

Explore the task: socratic seminar

INVESTIGATE

Research the issue

Read closely

Analyze claims

Prepare questions for discussion

CREATE

Prepare and practice

SHARE & REFLECT

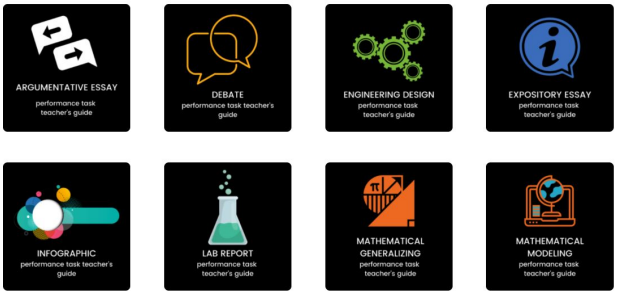
Participate in evidence-based discussion (cite evidence)

Give and receive feedback

Reflect

If you would like to access an open source library of resources to support performance task design for these performance tasks using the formative task structure, please visit reDesign's performance task design Resources page:

https://www.redesignu.org/design-lab/performance-tasks/



Considerations for the road.

DESIGNING AGENTIC LEARNING EXPERIENCES.

Our guidance for using formative tasks with learners is grounded in the principles of Cognitive Apprenticeship previously shared in this brief:

- Make the invisible, underlying processes of the task visible → *Use formative tasks, within the learning cycle framework, as the organizing structure of projects or performance assessments*
- Teach these processes explicitly in a way that builds learners' awareness → *Unpack each formative task with learners, modeling the thinking involved in each formative task*
- Provide regular opportunities for practice with specific feedback, reflection, and revision → *Focus on developing learners' thinking skills, not grading*
- Vary the diversity of situations in which learners engage in the task, and prompt metacognitive awareness about the common aspects in order to support transfer of learning → *Give learners multiple and varied opportunities to practice and demonstrate the thinking skills embedded in each formative task*

Remember that the formative tasks are a form of scaffolding; as soon as learners are ready for the supports to be removed, such that they can design their own learning-as-creating journey, remove them!

SUPPORTING ADULT DEVELOPMENT IN TASK DESIGN.

The formative tasks are not intended to replace teachers thinking or ideas about project or performance task design. They are best used as a resource or reference to strengthen quality design.

When working with adults engaged in designing performance tasks, consider the following:

- **Start by asking designers to tap their own metacognition.** Have them "unpack" a performance task they plan to implement. *What processes do you go through yourself, when completing this task?* Then, when you've mapped out your own processes, cross-check your work with reDesign's performance task bank to see which formative tasks might be worth including or customizing. This tool may help.
- **Engage adults in meaningful learning about the key concepts** of scaffolding, making thinking visible, and transferability of creative process stages. This brief might be a great place to start!
- Well-scaffolded task design is complex work! **Remember that adult learning design follows the very same principles of Cognitive Apprenticeship**: explicit modeling, opportunities to practice with feedback, and varied learning experiences.

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reDesign is an educational design and social impact consultancy. Our mission is to help create equitable, learner-centered communities where all young people thrive.

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