Framework for AI Fluency

Practical Overview Document

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Authors: Rick Dakan (Professor of Creative Writing, AI Coordinator, Ringling College of Art and Design, rdakan@c.ringling.edu) and Joseph Feller (Professor of Information Systems and Digital Transformation, Cork University Business School, University College Cork, Ireland. jfeller@ucc.ie)

1. About This Document

The *Framework for AI Fluency* summarized in this document has emerged from an ongoing research collaboration (Prof Rick Dakan from the Ringling College of Art and Design, Florida, and Prof Joseph Feller from the Cork University Business School, University College Cork, Ireland) exploring the intersections between AI, creativity, innovation and learning.

The framework has also been (and continues to be) informed by the ongoing design and delivery of student courses, as well as faculty seminars and workshops, at both the Ringling College of Art and Design and the Cork University Business School, in the 2023/2024, 2024/2025, and 2025/2026 Academic Years.

This document presents a overview of the framework as a practical tool that is designed to inform discourse and practice in higher education on curriculum and assessment design, academic policy setting, student employability and career coaching, and similar topics in the context of AI (and particularly GenAI) digital disruption.

Although primarily aimed at higher education, we imagine that the framework in this form will also benefit other educational levels, and indeed organizations more widely addressing the challenges and opportunities of GenAI.

2. Framework Overview

The Framework for AI Fluency describes the interconnected competencies needed to use AI in creative, innovative, and problem solving work. Rather than viewing AI merely as an efficiency

engine, the framework recognizes the potential for AI to act as an authentic thinking partner for doing meaningful cognitive work, while acknowledging that this potential can only be realized through the development and performance of specific human competencies.

We define *AI Fluency* as the ability to work effectively, efficiently, ethically, and safely within emerging modalities of Human-AI interaction. In its current version, the framework identifies three modalities of interaction observable in the current state-of-the-art:

Modality 1: Automation (AI Performs Human-Defined Task)

- AI performs tasks independently, but based on direct human instructions (e.g. in response to a prompt).
- This modality is particularly useful for improving the efficiency of repetitive, time-consuming, or data-intensive tasks.
- Requires clear task definition and quality control measures.
- Examples: Emails, summaries, social media posts, basic coding.

Modality 2: Augmentation (AI and Human Perform Task Collaboratively)

- AI and human co-define and co-execute tasks in an iterative way, collaborating towards an end goal
- This modality focuses on enhancing human creativity rather than replacing it through the addition of an AI thinking partner.
- Involves a dynamic interplay between human and AI contribution.
- Examples: Writing stories, essays, research papers, complex coding tasks.

Modality 3: Agency (Human Configures AI to Perform Tasks Independently)

- Human configures AI to independently perform future tasks (including for others) on behalf of the user.
- This modality defines the characteristics and future behavior of an AI, rather than a specific task.
- Requires sophisticated understanding of AI capabilities and limitations.
- Examples: Interactive game characters, tutors, chatbots.

Human-AI interactions often bridge multiple modalities, and practitioners often move between contexts even within single projects or workflows.

The framework identifies four core competencies (described in section 3) that enable practitioners to:

- Make appropriate decisions about if, when, and how to use AI tools,
- Effectively communicate desired outputs and behaviours to AI systems,
- Accurately assess the quality and appropriateness of AI outputs and behaviours,
- Ensure ethical practice, transparency and accountability.

We believe the framework offers several key advantages:

- **Platform and Technology Agnostic**: Independent of specific tools or platforms, and is adaptable to emerging and rapidly evolving technologies and use cases.
- **Contextual and Flexible**: Characterizing effective action rather than prescribing rigid processes, and is compatible with other skills taxonomies in a variety of professional contexts.
- **Ethics-Centered:** Treats ethical considerations as fundamental, and recognizes that responsible and safe AI use is as important as responsible and safe AI design.

.3. Core AI Competencies (“The 4 Ds”)

The four core competencies (Fig 1) describe the interconnected human skills, knowledge and values that enable effective, efficient, ethical, and safe Human-AI interaction.

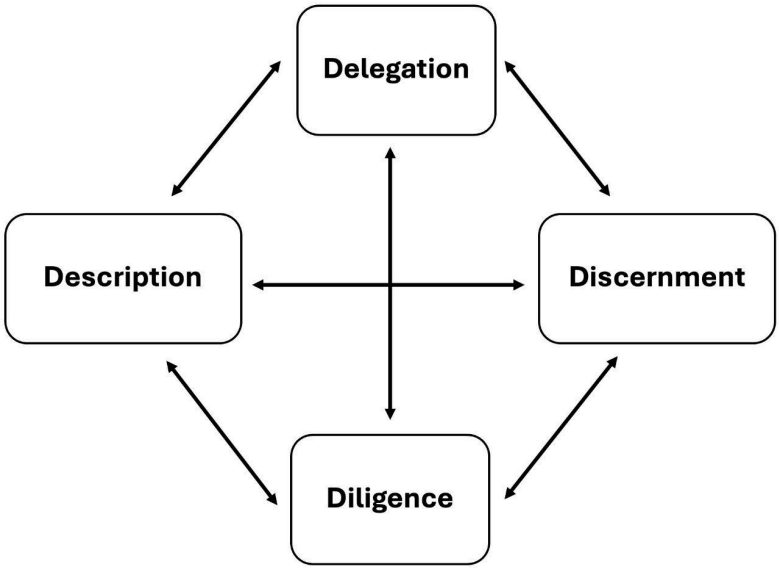

Fig. 1 Core AI Competencies

Delegation - Creative vision and selection of the right AI tools and techniques to realize that vision.

Delegation refers to the ability to identify when and how to use AI tools and modalities effectively in creative and problem-solving processes. It involves understanding the capabilities and limitations of various AI technologies and making informed decisions about when to use AI for automation, augmentation, or independent agent-mediated experiences.

Sub-categories:

a) Goal and Task Awareness:

- Envisioning an effective goal for a project.
- Understanding the nature and requirements of the task(s) towards the defined goal.
- Ability to analyze and deconstruct a task into AI, human, and collaborative components.
- Necessary for effective integration of AI into creative workflows.

b) Platform Awareness:

- Understanding the capabilities and limitations of current AI tools.
- Knowledge of various AI platforms and their specific strengths and limitations in relation to the project's goal.
- Ability to evaluate AI tools based on project requirements, budget, operational and regulatory needs.
- Necessary for selecting the optimal AI tools for specific tasks.

c) Task Delegation:

- Balancing AI and human capabilities throughout a project to best realize the creative vision.
- Understanding the different affordances of each modality (Automation, Augmentation, Agency).
- Ability to assign project tasks to human and AI tools optimally.
- Necessary for successful collaboration between human and AI in creative processes.

Description - Effectively describing a vision and/or tasks to prompt useful AI behaviors and outputs.

Description encompasses the skills needed to effectively communicate ideas, requirements, constraints, and other aspects of creative visions to AI systems. It involves crafting clear, specific, and well-structured prompts (using a wide range of prompting techniques) and other elements that guide and enable AI tools to produce desired behaviors and outputs.

Sub-categories:

a) Product Description:

- Prompting to define desired output.

- Ability to clearly articulate desired characteristics, features, and qualities of the final AI-generated output.
- Skill in translating creative vision into explicit, AI-understandable terms.
- Crucial for guiding AI tools to produce results aligned with the creator's intentions.

b) Process Description:

- Dialogic prompting to produce effective iterative collaboration.
- Ability to engage in dynamic, back-and-forth communication with AI tools.
- Skill in breaking down complex tasks into a series of smaller, manageable prompts.
- Essential for guiding AI through multi-step creative processes aligned with the human collaborator.

c) Performance Description:

- Directive prompting to define future AI behaviors and enable positive user experience.
- Ability to define how AI-generated content or systems should behave or interact with the world
- Skill in anticipating user needs and translating them into guidelines for AI behavior.
- Critical for enabling future AI-driven agential behaviors that are aligned with the human's vision and values.

Discernment - Accurately assessing the usefulness of AI outputs

Discernment involves the critical evaluation of AI-generated outputs, understanding their quality, relevance, potential biases, and other salient characteristics. It also includes the ability to iterate and refine the collaborative process with AI tools.

Sub-categories:

a) Product Discernment:

- Evaluating output quality and identifying ways to improve it.
- Ability to critically assess the quality, relevance, and effectiveness of AI-generated content.
- Skill in identifying strengths and weaknesses in AI outputs.
- Crucial for maintaining high standards in AI-assisted creative work.

b) Process Discernment:

- Assessing if the human-AI collaborative dynamic is fruitful or not and how to improve it.
- Ability to evaluate the effectiveness of the human-AI collaborative process.
- Skill in identifying which aspects of human-AI interactions are most beneficial and where improvements can be made.
- Essential for optimizing the use of AI tools in creative collaborative work.

c) Performance Discernment:

- Evaluating if AI-driven independent behaviors enable positive user experiences and how to better direct the AI to improve outcomes.
- Ability to assess the effectiveness of AI systems in independent, user-facing scenarios.
- Skill in gathering and interpreting human feedback to refine and ensure intended AI-driven behaviors and experiences.
- Essential for designing user experiences aligned with the project's vision and values.

4. Diligence - Taking responsibility and vouching for final products created using AI

Diligence refers to the responsible use of AI, including ethical considerations, transparency about AI use, and taking accountability for the final products created with AI assistance.

Sub-categories:

a) Creation Diligence:

- Responsible use of AI tools, maintaining ethical and legal best practices, awareness of biases, flaws, stakeholder impacts, and other externalities.
- Understanding and applying ethical principles throughout the AI-assisted creative process.
- Ability to identify and mitigate potential biases and ethical risks in AI-generated content.
- Crucial for ensuring responsible and socially conscious use of AI.

b) Transparency Diligence:

- Transparency and accountability when distributing the end product.
- Understanding of audience, industry, and legal expectations and norms around AI-generated content.
- Skill in clearly communicating the nature of AI involvement in the process.
- Essential for maintaining trust and integrity when distributing AI-assisted work.

c) Deployment Diligence:

- Taking responsibility for verifying and vouching for AI-assisted outputs, including thorough fact-checking, testing for accuracy, and validating claims.
- Implementing appropriate safety checks and testing procedures before releasing AI-assisted work.
- Understanding, managing, and assuming responsibility for potential risks and impacts of deployed AI-assisted content and/or agents.
- Essential for ensuring the quality, safety, and reliability of content and/or agents created through Human-AI interaction.

***Diligence Statement**: In the creation of this document, we used Claude 3.5 Pro to assist in text creation and refinement. We affirm that all AI-generated and co-created content underwent thorough vetting, editing, and curation by the human co-authors. The final document accurately reflects our understanding, expertise, and intended meaning. While AI tools were instrumental in the writing process, we maintain full responsibility for the content, its accuracy, and its presentation. This disclosure is made in the spirit of transparency and to acknowledge the evolving role of AI in content creation and other intellectual work.*