Mindful
Assessment

The 6 Essential Fluencies of Innovative Learning

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Table of Contents

Chapter 2

Structure of the Fluencies Assessment Framework

Chapter 3

Solution Fluency

Chapter 4

Information Fluency

Chapter 5

Chapter 6

Chapter 7

Collaboration Fluency 103

Chapter 8

Epilogue

Appendix

Introduction

Lessons From the Dojo

To some who have watched aikido in a movie or YouTube clip, it appears that one person is simply tossing around another. It seems almost impossible that such tiny movements could cause such a major reaction, and that perhaps there is a little overreacting involved. To others, the actions seem to be magical, almost superhuman, as if the practitioners call on unseen forces to execute the movements so fluidly and with such precision.

In aikido practice, the *uke*, or receiver, initiates the move by attacking the *shite*, or doer, who applies the *waza*, or technique, to the receiver. Both sides, the doing and receiving, of the technique must be learned and are essential to a balanced practice of the art. The shite moves the body to blend with the uke's actions. The uke then must blend with the shite's technique in a way that is not a mere passive reception of, but rather a thoroughly active response to, the shite's actions. While the uke appears to make exaggerated movements of falling and rolling, these actions are the only way one can safely receive the technique. To be passive in the process exposes the uke to serious injury. It is a process of harmony and unification, not of physical strength.

One December morning, Lee was training with another student at an aikido dojo in Kyoto, Japan. During their practice, Lee became distracted, but his daydreaming was quickly interrupted by a searing pain in his shoulder and the sting of his face slamming into the frozen bamboo-weave tatami mats.

As Lee snapped back to reality and grasped his shoulder, he saw his shite was also lying on the tatami and holding his shoulder. The realization of what had just happened came rushing back. In receiving the waza and not being present, he had strongly resisted the shite who was also not in the moment. Both Lee and his partner received injuries that prevented them from training for a week but were not serious enough to prevent them, at the insistence of their sensei, from cleaning the dojo with their uninjured arms, each with one hand on the rag at all times, cleaning, wringing, and cleaning

chapter 1

Approaches to Assessment

What is the most common feedback we provide to students? A number. It is intended to be helpful, to provide a snapshot of where they are in their learning. Even if it doesn't affect the overall grade, even if it is just a quiz, we provide a number. The problem with providing a number is that this is summative. It does not identify strengths and weaknesses or provide feedback for learning and development.

John Hattie (2009), in his seminal work, *Visible Learning*, identifies the importance of feedback. His meta-research, which brings together hundreds of pieces of education research, indicates that timely, appropriate, and learner-focused feedback is one of the most significant things that we can provide our students to improve their learning outcomes. Jody Nyquist (2003) further identifies that knowledge of results—what a student scores in the assessment—is the weakest form of feedback; the strongest feedback consists of knowledge of results, an explanation, and an immediate activity to bridge the gap.

The shift that needs to occur to provide such feedback and opportunities is simple to explain but requires mindfulness to implement. Let's look at an example and improve on it. Consider, for example, a teacher who returns a marked quiz to the student that includes a simple number such as 7/10. Now let's reimagine this example with mindful shifts.

The teacher prepares an activity with specific questions and specific activities to reinforce the learning for each question if the students' response to the questions shows the activity is required. Then, one of the following approaches transpires.

- The students mark the quizzes themselves and then individually undertake the learning activity that reinforces the identified area of weakness.

- The students mark the quizzes and identify which activities are needed, and then form learning groups to complete the activities identified.

ment and further cultivate it with formative assessments. With these methods as a basis, we have developed an assessment framework and rubrics for teachers to apply when assessing the essential fluencies, which we will outline in this chapter. It is important that teachers embed these methods in the foundation of their use of these frameworks and tools.

Phases of the Assessment Framework

In designing our assessment framework, we identified four distinct phases that students move through as they apply different types of skills at different complexity levels within their learning. These phases correspond directly to four-level rubrics we've developed to facilitate evaluation, which we illustrate later in this chapter. When examining students' performance in relation to these phases, it's important for teachers to keep in mind that measurement of the fluencies involves measuring the development of a person *over time*—the incremental improvements that take place. The taxonomic levels that Bloom's (1956) cognitive domain outlines provide a guide for identifying these improvements.

Bloom (1956) describes three domains of learning: (1) *psychomotor*—describing manual and physical skills and acquisition, (2) *affective*—dealing with attitudes, emotions, and feelings, and (3) *cognitive*—dealing with processing information and knowledge and the development of mental skills. It is this cognitive domain that educators are most familiar with. Bloom's taxonomy is represented by the following taxonomic levels in this domain, arranged from LOTS to HOTS.

- **Remembering:** Retrieving, recalling, or recognizing knowledge from memory; when learners use memory to produce definitions, facts, or lists, or to recite or retrieve material

- **Understanding:** Constructing meaning from different types of functions, be they written or graphic

- **Applying:** Carrying out or using a procedure through executing or implementing; relates and refers to situations in which students use learned material through products such as models, presentations, interviews, and simulations

- **Analyzing:** Breaking material or concepts into parts, determining how the parts relate or interrelate to one another or to an overall structure or purpose; mental actions include differentiating, organizing, and attributing as well as being able to distinguish between components

- **Evaluating:** Making judgments based on criteria and standards through checking and critiquing

- **Creating:** Putting the elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing

chapter 5

Creativity Fluency

The capacity to be creative resides within all of us. It is inherent to our nature and has existed as a fire within us since we became a part of this world. We look to the stars, and we dream. We put pen to paper, and we create entire worlds to lose ourselves in. We perceive beautiful giants living within blocks of rough-hewn marble, waiting to be freed. We gaze on blank canvases or the cold and barren ceilings of cathedrals and forge masterpieces that live on for generations.

Today, our canvases are computer and tablet screens, and we can instantaneously share our creations across a world without barriers. Indeed we are creative, and this is a process that any teacher can impart to any student.

We have engineered this process into what we call creativity fluency. Artistic proficiency adds meaning through design, art, and storytelling in this method. It is about using innovative design to add value to a product's function through its form. We define the creativity fluency aspects as the 5Is: (1) identify, (2) inspire, (3) interpolate, (4) imagine, and (5) inspect. In this chapter, we will describe these aspects, note some skills each helps to cultivate, and list potential benefits that result from developing those skills. We then provide rubrics for measuring items that students require to be successful with the creativity fluency aspects.

Identify

Identify involves distinguishing the elements and the criteria of the desired outcome. It's about figuring out what students need to create and what limitations or restrictions they face. They begin by asking what the task is and what they want to create. The skills that students develop in the identify stage, and the beneficial opportunities and possibilities that utilizing each creates, include the following.

- Understanding the problem:
  - Gives the problem the proper context
  - Makes searching for data and information easier and more focused

Envision

At this stage the group visualizes, defines, and examines the purpose, issue, challenge, preferred solution, or goal. It also develops an agreement about the outcome and the criteria for evaluating it. The skills that students develop in the envision stage, and the beneficial opportunities and possibilities that utilizing each creates, include the following.

- Defining the current problem or situation:
    - Informs team members of the problem they are collectively solving
    - Gives the problem the proper context for the whole group
    - Invites the group to share insights about collective goals and expectations
- Visualizing a desired future:
    - Ensures that the team works toward a unified goal
    - Inspires and encourages the team to think about possibilities without limits
    - Discovers that the impossible may actually be possible sometimes
    - Encourages brainstorming activities that hone communication skills
- Specifying information needs:
    - Promotes critical thinking and deep understanding of learners' creative wishes through asking good questions
    - Makes the information gathering process move quickly through an organized team approach
    - Gives learners a better understanding of the nature of the problem
- Identifying all available information:
    - Gives learners a starting point for organizing and utilizing data
    - Allows learners to discern what information is missing and what they don't need
    - Indicates that learners may be closer to formulating a solution than they originally thought
- Developing criteria for evaluating the outcome:
    - Helps learners identify and verbalize the desired outcome
    - Allows the team to work together to decide how it will measure success once it creates a solution
    - Encourages more focus on generating the best solution possible
    - Encourages a very thorough understanding of the problem