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Twisting the Taxonomy: Teaching With Our Möbius Strip Model

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Twisting the Taxonomy: Teaching With Our Möbius Strip Model

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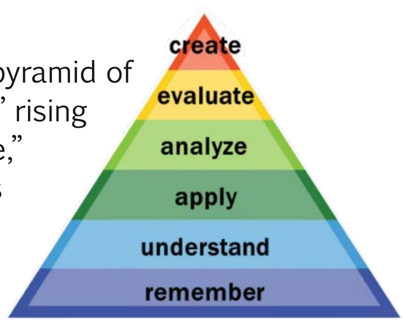
Abstract

Since its publication in 1956, Bloom's Taxonomy of Educational Objectives has become one of the most widely used frameworks in teaching, curriculum design, and assessment. Despite revisions, its core assumption - that learning progresses in a linear hierarchy from remembering to creating - has remained intact. This article critiques Bloom's taxonomy as a relic of industrial-era thinking, designed more for organizational convenience than fidelity to how learning actually occurs. Drawing on research in psychology, neuroscience,

and systems theory, we demonstrate that learning is recursive, affective, and contextual rather than sequential or compartmentalized. Emotional arousal, attachment, and autonomy shape cognition simultaneously, while complexity theory reveals classrooms as dynamic, adaptive systems resistant to linear categorization. Language acquisition and moral development likewise show that evaluation and creation emerge in tandem with remembering and applying. The persistence of Bloom's taxonomy, we argue, reflects its utility for accountability and role-preparation rather than its accuracy as a model of learning. As an alternative, we propose the Möbius strip as a metaphor for recursive, looping learning that integrates creation, reflection, emotion, and application in continuous interplay. Implications for curriculum design, assessment, and teacher education are discussed, with a call to shift from hierarchical taxonomies to systemic, recursive models that honor the realities of human development.

Introduction: The Enduring Pyramid



Nearly every educator has encountered it: the pyramid of learning objectives. At its base lies "Remember," rising upward through "Understand," "Apply," "Analyze," "Evaluate," and culminating in "Create." Bloom's Taxonomy, first published in 1956, has become the lingua franca of educational planning. It appears in teacher training syllabi, curriculum guides, professional development workshops, and lesson plans around the globe. Few frameworks in education have had such staying power.

And yet, its persistence invites scrutiny. Despite revisions, Bloom's taxonomy has remained remarkably consistent in its underlying assumptions: that learning is hierarchical, that learners progress step by step through neatly bounded categories, and that mastery can be universally represented on a single ladder. What has changed is not the framework itself, but the context in which it operates. Education today is shaped by shifting paradigms - constructivism, learner-centered pedagogy, trauma-informed practice, systems thinking - that highlight the complexity and nonlinearity of learning.

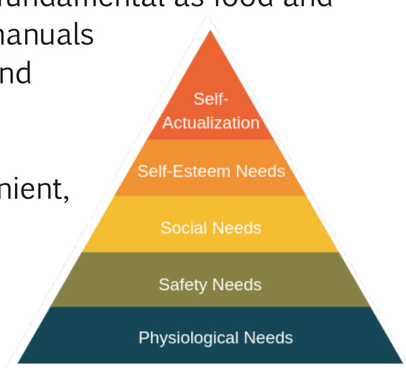
In light of these shifts, Bloom's taxonomy appears less like a faithful representation of learning and more like a relic of mid-20th-century industrial thinking. It is convenient, yes. It is easy to map, to plan around, to measure. But convenience is not the same as accuracy. If we wish to understand learning as it actually happens, and design education that honors it, we must question whether Bloom's framework is adequate - or whether it has become a monument to a bygone era.

The Taxonomic Impulse

Bloom's taxonomy did not emerge in a vacuum. It reflected a broader cultural moment in which classification was seen as synonymous with understanding. The Enlightenment's natural historians - Carl Linnaeus, Jean-Baptiste Lamarck, Georges Cuvier - organized plants and animals into neat categories. The industrial age prized efficiency, vertical integration, and uniform production. Bloom and his colleagues, working in the postwar United States, brought that same impulse into education: knowledge could be dissected, sorted, and stacked into levels.

But taxonomies are not neutral. They encode the values and priorities of their time. Linnaeus's biological categories, for example, were later used to justify social hierarchies. Bloom's categories have served the purposes of accountability systems, standardization, and efficiency. The replacement of "Evaluate" with "Create" in the 2001 revision was not the discovery of a new cognitive truth - it was a cultural adjustment, reflecting economic and political emphasis on creativity as a competitive advantage in the global marketplace.

This arbitrariness is not unique to Bloom. Maslow's Hierarchy of Needs, another staple of teacher preparation, has been criticized for presenting human motivation as a neat ladder. Later research demonstrated that needs are real, but not sequential: belonging, for instance, is as fundamental as food and shelter. Yet the tidy pyramid persists in training manuals because it is simple to visualize, easy to teach, and convenient to reference.



The danger is that such taxonomies, while convenient, distort reality. They take the messy, recursive processes of human development and flatten them into steps. They substitute what is easy to diagram for what is true.

Interrogating the Taxonomic Tradition

Bloom's Taxonomy has served as a dominant organizing framework in education since its publication in 1956. Its neat hierarchy - remembering, understanding, applying, analyzing, evaluating, and creating - continues to shape lesson planning, assessment, and professional development. Yet scholars have long pointed out its limitations. The central critique is that Bloom's model presents learning as a linear progression of discrete steps, whereas human learning is recursive, affective, and context-dependent (Case, 2013; Maiorana, 2015). Case (2013) argued that Bloom's framework, instead of lifting expectations, has sometimes encouraged teachers to aim lower, channeling weaker students into simplified objectives and thereby limiting access to richer opportunities for critical and creative thinking.

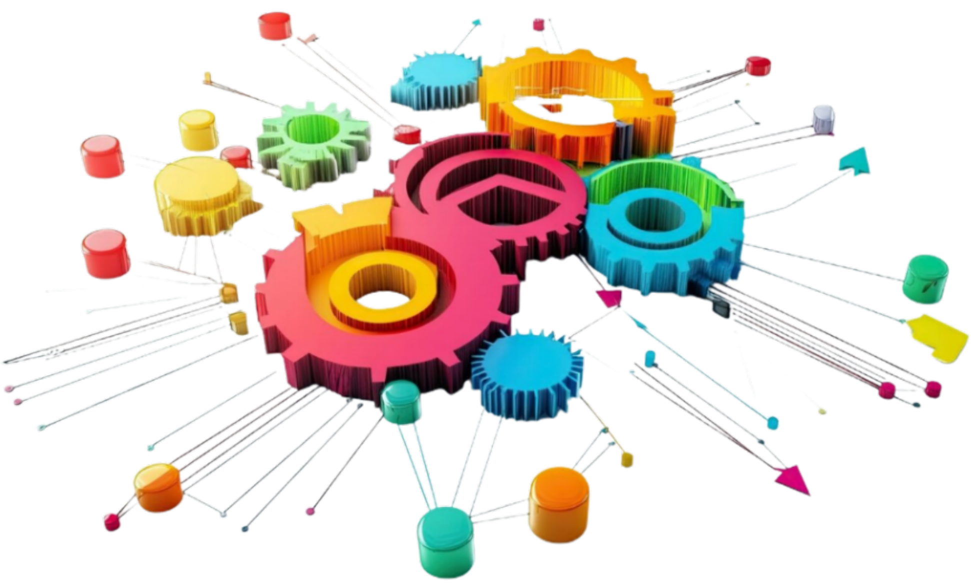
Research in psychology and neuroscience further complicates Bloom's sequential model. Seymour Epstein's Cognitive-Experiential Self-Theory demonstrates that cognition is shaped by two parallel systems: an analytical-rational system and an intuitive-experiential system. These do not function in sequence but in constant interaction, jointly influencing learning and decisionmaking (Epstein, 1994). Likewise, research on emotion and memory shows that emotionally significant experiences are more strongly encoded and remembered than neutral ones. McGaugh (2000) established that emotional arousal activates biochemical processes that consolidate long-term memory.

Later studies confirmed that arousal sharpens attention and enhances selectivity in perception and recall (Mather, Clewett, Sakaki & Harley, 2015). Tyng and colleagues (2017) reinforced this, demonstrating that emotion is not a distraction from learning but a precondition for it, deeply shaping attention, encoding, and retrieval. These findings show that learning cannot be meaningfully separated into "affective" and "cognitive" domains - contradicting Bloom's taxonomic division.

The lens of complexity science also challenges the hierarchical assumptions of Bloom. Classrooms function as complex adaptive systems: dynamic, recursive, and non-linear. Feedback loops, emergent relationships, and interdependence among learners shape outcomes in ways that cannot be reduced to a stepwise progression. Saqr et al. (2025) argue that educational research and practice must embrace complexity thinking, acknowledging that small shifts in context or relationships can have outsized effects on learning. In such systems, categorization into rigid levels is not only inadequate but misleading.

Finally, developmental perspectives offer additional challenges. Psychodynamic theory emphasizes the simultaneous development of attachment and autonomy in children, showing that emotional experience structures cognition in recursive ways (Epstein, 1994). Similarly, studies in language acquisition demonstrate that children create, evaluate, and apply knowledge simultaneously, often through error and play, rather than by climbing a cognitive ladder in sequence. These findings suggest that learning processes are not linear escalations but rather looping, iterative engagements with the world.

Taken together, the literature reveals a consistent theme: Bloom's taxonomy has utility as a framework for organizing objectives and assessments, but it fails to capture the realities of human learning. Advances in psychology, neuroscience, and systems theory underscore that learning is non-linear, affective, embodied, and emergent. The persistence of Bloom's taxonomy, then, may reflect its convenience for accountability systems more than its fidelity to human development.



Education as a Complex System

Complexity theory and chaos theory offer a very different picture. They describe systems that are dynamic, non-linear, and adaptive. In such systems, elements interact in rich, unpredictable ways. Small causes can produce outsized effects. Feedback loops create constant adaptation. Outcomes emerge from interaction rather than from linear progression.

Education fits this description well. A classroom is a complex adaptive system: learners influence one another, teachers adapt to the dynamics of the group, environmental and cultural factors shape outcomes. Learning itself behaves like a complex system - recursive, contextual, deeply interdependent.

And yet, our most enduring educational framework insists on hierarchy and linearity. This is not only conceptually inaccurate; it may also be counterproductive. If teachers are trained to see learning as stepwise, they may overlook the recursive, affective, and relational processes through which their learners actually grow.

Lessons from Psychology and Neuroscience

Psychodynamic theory underscores the inadequacy of rigid taxonomies. Early development is shaped by two simultaneous needs: attachment and autonomy. Children seek belonging while also striving for independence. These twin drives are not sequential - they develop in tandem. Emotional experience structures cognition; meaning-making arises from the interplay of sensation, affect, and symbol.

Neuroscience reinforces this view. The amygdala, seat of emotional memory, does not wait for cognition to “catch up.” Emotion and reason operate together, shaping memory and learning. When a child hears the word “no,” it is first felt as a rupture in attachment; only later does it become embedded as a concept in a moral framework. In other words, cognition does not build on emotion - it builds *with* emotion.

Bloom’s taxonomy, by contrast, suggests that affective, psychomotor, and cognitive domains can be separated, each with its own hierarchy. But the evidence shows otherwise: they are inseparable, recursive, constantly interacting.

What Language Acquisition Teaches Us

Language acquisition further undermines the notion of linear progression. Children do not first master “remembering” before “creating.” They create constantly: experimenting with words, overgeneralizing rules (“I goed”), and refining categories. They test hypotheses through play, receiving feedback from caregivers and peers. Their errors are not failures of sequencing but signs of the recursive, creative nature of learning.

The process is messy, but it works. Children evaluate as they create, create as they apply, and apply as they remember. There is no clear order. Learning is looping, recursive, and adaptive.

The Social Function of Taxonomies

Why, then, does Bloom (or any number of the other similar taxonomies introduced since its conceptualization) persist? The answer may lie less in learning than in power. As Michel Foucault argued, knowledge and power are intertwined. What counts as "knowledge" is determined by those who hold power, and in turn justifies their authority (Foucault, 1970).

Education serves a social purpose: producing adults who can fill roles in the economy and society. Taxonomies like Bloom's provide a structure for that purpose. They make learning measurable. They allow for standardization, accountability, and assessment. In effect, they align teaching with testing.

This is not inherently bad. Societies need role preparation. But if we mistake this social function for authentic learning, we risk narrowing education to what is easily measured rather than what is deeply transformative. Bloom's taxonomy, then, may function less as a learning tool than as a social tool - useful for system-level management, but misleading for understanding the learner.

Contemporary Alternatives: Growth, Habits, and Grit

Over the past two decades, new frameworks have emerged that shift attention from cognition to disposition. Costa and Kallick's Habits of Mind emphasize problem-solving dispositions like persistence, flexibility, and curiosity. Carol Dweck's Growth Mindset highlights the power of beliefs about intelligence in shaping motivation and achievement. Angela Duckworth's research on Grit focuses on perseverance over time.

These models recognize what Bloom underplays: that attitudes and behaviors matter deeply for learning. They affirm that success depends not only on knowledge acquisition but on motivation, resilience, and creativity.
Yet these models, too, risk simplification. "Growth Mindset" can become a poster slogan rather than a pedagogical practice. "Grit" can be reduced to a

checkbox on a rubric, ignoring the contextual factors that shape perseverance. Habits of Mind can be treated as discrete skills rather than cultivated dispositions. The same taxonomic impulse threatens to tame their complexity into lists and levels.

Still, their rise signals a recognition that Bloom's categories are not enough. Educators are searching for models that honor the whole learner - cognitive, emotional, and social.

Twisting the Taxonomy: The Möbius Strip

If Bloom's pyramid no longer serves, what image might replace it? We propose a Möbius strip, a surface with only one side and one boundary. As you trace your finger along it, inside becomes outside, beginning becomes end. It is continuous, recursive, and paradoxical. It resists neat separation.

Learning is like this. Students do not "finish" remembering before beginning to create; they remember through creating, and create through remembering. Evaluation is not a final step but a constant companion to application. Affect, cognition, and behavior interweave. The process is recursive, adaptive, and ongoing.

This metaphor suggests a pedagogy that:

- Designs experiences rather than marching through objectives.
- Honors affect as central to cognition.
- Creates space for creativity before mastery.
- Embraces unpredictability and emergence.

It is a less convenient model but a truer one.

IMPACT

Positioning Our Möbius Strip Model in the Literature

Several influential models in education have gestured toward the recursive nature of learning, but none have fully captured its paradoxical, continuous character. Our Möbius Strip Model acknowledges and appreciates these traditions while addressing their limitations and seeking to further improve upon the important innovations of those models.

Kolb's Experiential Learning Cycle (1984) is perhaps the closest precedent. Kolb proposed that learning occurs through a four-stage cycle: Concrete Experience > Reflective Observation > Abstract Conceptualization > Active Experimentation. His cycle highlights the iterative movement between experience and reflection. However, Kolb's model retains a sequential structure and a sense of closure at the end of each loop. In contrast, our Möbius Strip Model of Learning emphasizes that learning, like the strip itself, is non-orientable - there is no true "start" or "finish." Creation and reflection fold into one another continuously, without fixed boundaries.

Bruner's Spiral Curriculum (1960) similarly acknowledges the need to revisit concepts at increasing levels of sophistication. The spiral suggests that learners circle back to core ideas as they advance. Yet the spiral still implies hierarchy: each return is "higher" than the last. Our Möbius Strip Model, by contrast, resists such verticality. It insists that remembering, applying, evaluating, and creating are not higher or lower orders of thought but recursive modes of engagement, always in play.

Recent critiques have further revealed the conceptual fragility of Bloom's framework. Larsen, Endo, Yee, Do, and Lo (2022) conducted an empirical analysis of the revised taxonomy and found that its two central dimensions—knowledge type and cognitive process—cannot be meaningfully treated as independent. Further, they demonstrated that the common reliance on action verbs as proxies for cognitive complexity is methodologically unsound. Taken together, their findings indicate that the structural assumptions underlying Bloom's revision risk distorting, rather than clarifying, the dynamics of actual classroom learning. These findings weaken the foundation of the taxonomy itself, showing that attempts to classify learning objectives into neat, hierarchical boxes often misrepresent the complexity of classroom practice.

Larsen et al. (2022), diagnose the limitations of Bloom's paradigm without proposing a systemic alternative. Our Möbius Strip Model takes the next step, rejecting classification altogether in favor of recursion.

In a complementary direction, **Dabney and Eid (2024)** appraise Fink's Taxonomy of Significant Learning, which aims to integrate affective, cognitive, and metacognitive dimensions in a more holistic way. Dabney and Eid illustrate how this framework responds to one of Bloom's greatest shortcomings - its neglect of emotion, motivation, and transfer. However, Fink's model **(Fink, 2013)**, like Bloom's, remains a taxonomy: it preserves the classificatory impulse, though its categories are more inclusive and interconnected. Dabney and Eid's work underscores the need to move beyond even "better" taxonomies. A true paradigm shift requires rejecting categorical hierarchies altogether, adopting instead a recursive, looping metaphor that reflects the lived reality of learning, as with our Möbius Strip Model.

Marzano's New Taxonomy (2000, 2007) improves upon Bloom's Taxonomy by integrating the cognitive, metacognitive, and self-systems, explicitly recognizing that motivation, beliefs, and affect are inseparable from thinking and performance. This represents a significant advance beyond Bloom's narrow focus on cognitive skills. However, despite its broader scope, Marzano's work remains within the taxonomic tradition: it categorizes learning into structured, discrete systems. Marzano's taxonomy illustrates the profession's growing recognition of complexity and affect, but it still relies on the classificatory impulse that underlies Bloom. Our Möbius Strip Model offers a more radical departure - rejecting categories altogether and conceptualizing learning as recursive, non-orientable, and inseparable in its cognitive, affective, and behavioral dimensions.

Insights from complexity and systems theory (Cilliers, 1998; Jörg, Davis, & Nickmans, 2007; Saqr et al., 2025) reinforce the need for such a model. Education, like other complex adaptive systems, is dynamic, emergent, and sensitive to context. Feedback loops, self-organization, and nonlinear interactions define both classrooms and individual learning processes. Our

Möbius Strip Model of Learning aligns closely with these principles while offering a concrete, visual, and tactile representation that can be readily grasped by educators and learners alike.

Finally, research in **psychology and neuroscience** provides empirical support for a model that resists linear sequencing. Dual-process theories (Epstein, 1994; Kahneman, 2011) demonstrate that intuition and analysis operate simultaneously. Studies on emotion and cognition (McGaugh, 2000; Tyng et al., 2017) show that affect and reasoning are co-constitutive, not sequential. Our Möbius Strip Model integrates these findings by rejecting any separation between domains and framing learning as a seamless interplay of emotion, cognition, and action.

In sum, while Kolb, Bruner, Larsen, Dabney and Eid, Marzano, and systems theorists have advanced the field toward more dynamic and integrative models, our Möbius Strip Model represents a distinctive further leap. Its value lies not only in theoretical accuracy but also in the accessibility of its metaphor: a strip of paper twisted once and taped, a reminder that learning is looping, continuous, and inseparable in its parts.

Implications for Practice

If educators are to apply our Möbius Strip Model, what follows?

- Curriculum Design: Move beyond objectives that build sequentially toward higher-order thinking. Instead, design recursive experiences where remembering, creating, and evaluating intertwine.

- Assessment: Shift from linear rubrics to portfolios, performances, and narratives that capture learning as process rather than product.

- Teacher Education: Prepare teachers to design for complexity - to see classrooms as systems where emotion, relationship, and context matter as much as content.

- Policy: Recognize the distinction between education’s social function (role preparation) and its deeper purpose (human learning). Align accountability with authentic learning, not just measurable outcomes.

Consider the following examples and templates.

Bloom's Taxonomy vs. Alley-Rosen Möbius Strip Model of Learning

Feature	Bloom's Taxonomy (Pyramid/Hierarchy)	Möbius Strip Model (Loop/Continuum)
Structure	Linear, hierarchical steps; learners "climb" from remembering to creating.	Continuous loop with no beginning or end; learners enter and move fluidly.
Flow of Learning	Sequential	Recursive: remembering, creating, evaluating, and applying can happen simultaneously.
Domains	Divided into separate categories (cognitive, affective, psychomotor).	Interwoven: emotion, cognition, and behavior unfold together in every cycle.
View of Mastery	Aim to "reach the top" (e.g., "Create").	Mastery is an illusion; learning is ongoing, adaptive, and unending
Emotion & Context	Affective domain exists but is often treated as separate or secondary.	Emotion and context are central, shaping every stage of learning.
Utility	Convenient for organizing objectives and assessments; aligns with accountability systems.	Truer to how learning actually happens; guides design of recursive, experiential learning.
Classroom Implication	Teachers deliver structured progression	Teachers design experiences; learners create, test, and reflect in iterative cycles.
Metaphor	A pyramid or ladder - stable, ordered, linear.	A Möbius strip - fluid, paradoxical, endlessly looping.

TEACHING

The Möbius Strip Model Unit Design Framework

Purpose: To guide teachers in designing learning units where knowledge, skills, and dispositions emerge through looping cycles of **Experience > Sense-Making > Application > Reflection**

Essential Question / Anchor Problem

- State the **grapple-worthy, divergent, "loopable" question or problem** that will guide the unit.
- This question should invite **multiple loops** of exploration, not a single "answer."
- *Example (Science):* How do ecosystems adapt to change?
- *Example (ELA):* How do stories help us understand identity?

Learning Loop Structure

Each **loop** in the unit is a cycle of:

1. **Experience / Creation**
   - Learners encounter a phenomenon, text, or problem.
   - Activities: inquiry labs, case studies, primary sources, simulations, design challenges.
   - Key questions: *What do you notice? What do you wonder? What could you try?*

2. Sense-Making / Remembering

   - Learners connect new experiences to prior knowledge.
   - Teacher introduces vocabulary, concepts, models, or historical context **after** the experience.
   - Activities: discussions, concept mapping, targeted mini-lessons.

3. Application / Analysis

   - Learners test ideas or use knowledge in new ways.
   - Activities: problem-solving, peer teaching, debates, real-world tasks.
   - Key questions: *Where else could this idea fit? How does this model hold up?*

4. Reflection / Evaluation

   - Learners evaluate their work, revise, and plan next steps.
   - Activities: self-assessments, peer critiques, reflective journals, portfolio check-ins.
   - Key questions: *What worked? What would you change? How does this shape your next attempt?*

The Reflection stage always loops back into a new Experience.

Example: 3-Loop Unit (Middle School Social Studies)

Essential Question: How does societies respond to crises?

- Loop 1:
  - *Experience:* Learners analyze primary sources from the Black Death.
  - *Sense-Making:* Learn about medieval medicine, trade, and religion.
  - *Application:* Map how the plague spread across Europe.
  - *Reflection:* Discuss what people understood vs. misunderstood.

- Loop 2:
  - *Experience:* Examine oral histories from the Great Depression.
  - *Sense-Making:* Introduce economic concepts (supply/demand, unemployment).
  - *Application:* Role-play policy proposals for recovery.
  - *Reflection:* Compare responses to medieval crisis.

- Loop 3:
  - *Experience:* Analyze recent pandemic responses.
  - *Sense-Making:* Introduce systems thinking and public health strategies.
  - *Application:* Design a crisis-response plan for a fictional town.
  - *Reflection:* Evaluate which lessons from history apply today.

Teacher Planning Template

Unit Title:

Loopable Question/Problem:

Target Standards / Guiding Principles:

Loop	Experience / Creation	Sense-Making / Remembering	Application / Analysis	Reflection / Evaluation
Loop 1				
Loop 2				
Loop 3				

(Add more loops as needed)

Key Design Reminders

- **Entry Point Flexibility:** Learners may enter at any loop; no one "starting point."
- **Emotion as Driver:** Curiosity, wonder, and empathy fuel engagement.
- **Iteration over Mastery:** Depth comes from cycles of trying, revising, and reapplying.
- **Transfer Across Loops:** Each loop should broaden or deepen understanding, not just repeat.
- **Link Back to Essential Questions:** Reflection should always tie learning to the loopable question/problem.

Lesson Title:

Grade/Span/Content Area:

Date/Duration:

Loopable Question / Problem:

Experience / Creation

(Learners begin by exploring, trying, or making - even before they "know.")

- Activity / Task:
- Learner Role:
- Emotional Hook / Curiosity Prompt:
- Sense-Making / Remembering

(Learners connect new experiences to prior knowledge and vocabulary.)

- Concepts / Knowledge to Introduce:
- Strategies (mini-lesson, discussion, modeling):
- How learners make meaning:

Application / Analysis

(Learners test, use, and adapt knowledge in new or extended contexts.)

- Application Task:
- Problem-Solving Strategies / Skills:
- Evidence of Understanding to Collect:

Reflection / Evaluation

(Learners critique, revise, and loop back into new learning.)

- Reflection Prompt(s):
- Peer / Self-Evaluation Opportunities:
- How Reflection Loops to Next Lesson:

Integration of Emotion, Context, & Collaboration

(Identify the affective and relational dimensions of learning.)

- How emotions drive attention/engagement:
- Collaborative structures (pairs, groups, whole-class):
- Connection to learners' culture, home, or lived experience:
- Evidence of Recursive Learning
- Where will learners **create before they remember**?
- Where will they **loop back** to revise or reapply?
- How will reflection become the **entry point** for tomorrow's lesson?

Assessment: The Möbius Strip Model Rubric

Purpose: To assess learning as a recursive process where each pass through the loop deepens understanding, rather than serves as a linear march to mastery.

Dimension	First Loop (Initial Attempt)	Second Loop (Revision /Re-application)	Third Loop (Expansion / Transfer)	Ongoing Loop (Sustained Growth & Innovation)
Creation & Experimentation	Generates an idea, product, or solution with limited detail; shows willingness to try.	Revises or expands original creation with feedback; greater detail or complexity emerges.	Applies creation to a new context or problem; shows adaptability and deeper connections.	Sustains creative process over time; introduces original innovations or integrates multiple disciplines.
Sense-Making & Understanding	Identifies surface-level concepts or recalls information with limited connections.	Clarifies meaning; connects new knowledge to prior experience; begins to analyze relationships.	Demonstrates deeper conceptual understanding; integrates multiple sources or perspectives.	Consistently synthesizes knowledge; produces original insights that extend beyond classroom contexts.

Application & Problem-Solving	Applies knowledge in a guided task with support; accuracy may be inconsistent.	Applies knowledge with increasing independence; demonstrates problem-solving strategies.	Applies knowledge flexibly in new or unfamiliar situations; selects strategies purposefully.	Anticipates challenges, adapts strategies, and contributes solutions that influence peers or broader contexts.
Reflection & Evaluation	Offers simple reflections (e.g., "This was easy/hard"); limited self-correction.	Identifies strengths and weaknesses; begins to revise based on reflection.	Uses reflection to guide new approaches; evaluates both process and outcome critically.	Embraces reflection as an ongoing practice; uses insights to drive continuous improvement and innovation.
Emotion, Engagement, & Collaboration	Shows curiosity or interest but engagement is inconsistent; relies on teacher direction.	Engages more consistently; collaborates with peers; emotions fuel effort.	Demonstrates sustained engagement; manages emotions productively in collaborative work.	Models resilience and empathy; inspires peers through engagement, reflection, and co-learning.

Conclusion: Past the Pyramid

Bloom's Taxonomy remains one of the most recognizable tools in education. Its endurance, however, has less to do with its fidelity to the reality of learning than with its convenience for systems of schooling. By offering a clear structure, it supports accountability, standardization, and assessment. But as Foucault (1970) reminds us, knowledge and power are intertwined: what counts as "knowledge" in schools often reflects broader social priorities rather than the authentic ways in which humans develop and learn.

The evidence from psychology and neuroscience is clear: learning is not linear. Emotion and cognition operate together, not in sequence (McGaugh, 2000; Tyng et al., 2017). Attention, memory, and meaning are shaped by arousal and affect (Mather, 2015). Developmental theory shows that attachment and autonomy emerge simultaneously, forming the foundation for knowledge-making (Epstein, 1994). Complexity science underscores that education, like other adaptive systems, is dynamic, recursive, and emergent (Saqr, et al. 2025). In short, learning is messy, looping, embodied, and relational.

To continue treating Bloom's taxonomy as the definitive map of learning risks flattening this complexity into something artificial. Instead, educators should adopt models that reflect the recursive, adaptive nature of real classrooms. Our Möbius Strip Model offers such a metaphor: one continuous surface where inside and outside blur, beginning and end fold into each other. Learning, like the Möbius strip, has no fixed entry point and no final summit. Remembering and creating, applying and evaluating, feeling and knowing - all fold together in dynamic interplay.

This does not mean discarding Bloom altogether. His taxonomy remains a useful organizing tool for objectives and assessments. But educators should be careful not to mistake a tool for a truth. As Case (2013) argues, frameworks such as Bloom's are most valuable when used critically, not dogmatically.

If our goal is to prepare learners for a world of uncertainty, complexity, and constant change, then our frameworks must mirror those realities. Education must equip learners not to climb a pyramid, but to thrive within a Möbius strip - recursive, adaptive, endlessly alive, and iterative.

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