WHEN THEORIES MISLEAD: REEXAMINING EDUCATIONAL FRAMEWORKS THROUGH EVIDENCE AND CRITICAL REFLECTION

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Educational theories serve as guiding frameworks that shape academic content, teaching practices, assessment designs, and policy decisions in higher education. When subjected to critical scrutiny, many theories offer helpful insights as long as we keep in mind they are just that—theories, not universal scientific laws. When theories are uncritically accepted, they mislead students and educators, waste resources, and create a misplaced sense of confidence in practices lacking empirical support.

Scholarly literature abounds with credible sources going back decades (e.g., Wahba & Bridwell, 1976; Waterhouse, 2006) documenting theories that continue to be used as frameworks for teaching and practice despite having long been discredited (e.g., Lilienfeld et al., 2010; Riener & Willingham, 2010). This article reexamines the role of theories in education, highlights several disproven yet persistent educational myths, and advocates for continuous critical reflection and empirical validation as core components of professional practice in the university context. Both historical and contemporary sources have been intentionally incorporated to demonstrate that these theories have long been recognized as unfounded.

Common Educational Myths

Consistent with prior scholars, this article will use the term "educational myths" to refer to theoretical claims that have been discredited or are not supported by credible evidence to justify using them as valid frameworks (e.g, Gerber & Sander, 2025; Howard-Jones, 2014; Lilienfeld et al., 2010; Tunga et al., 2025). These models function as idealized fictions—simplified narratives—that impose conceptual order upon the inherently complex and context-dependent nature of learning and motivation while distorting both empirical reality and lived human experience (e.g., Francis, 2021; Gravett & Bach, 2024; Saif, 2024). Over time, these frameworks have become traditional narratives within higher education, perpetuating the illusion of universality and scientific legitimacy despite evidence to the contrary. Such models also serve to elevate particular theorists' contributions, thereby reinforcing a selective and culturally circumscribed worldview that marginalizes alternative perspectives and evidence.

Educational myths arise from multiple sources. Some emerge when complex findings about teaching and learning are oversimplified and overgeneralized claims despite resting on weak or inconsistent evidence (Lilienfeld et al., 2010). Others are perpetuated by decontextualized summaries in textbooks,

media pieces, and professional development materials that omit crucial caveats, boundary conditions, or methodological limitations (Pasquinelli, 2012; Hughes et al., 2020). Among the most frequently endorsed myths are learning styles, left-brain/right-brain thinking, multiple intelligences, Maslow's hierarchy of needs, and Bloom's taxonomy (Dekker et al., 2012; Fink, 2013; Francis, 2021; Howard-Jones, 2014; Pashler et al., 2008; Tunga et al., 2025).

- Learning styles theory claims students learn best when instruction is tailored to preferred modalities (e.g., visual, auditory, kinesthetic), yet rigorous reviews have failed to find reliable benefits of matching teaching to such styles on learning outcomes (Brown, 2023; Pashler et al., 2008; Dekker et al., 2012).
- The left-brain/right-brain dichotomy persists in popular discourse, even though contemporary neuroscience shows that both hemispheres are involved in most cognitive tasks and that functions are far more integrated than this simplistic model suggests (Howard-Jones, 2014).
- Multiple intelligences theory, proposed by Howard Gardner, suggests people have several distinct types of intelligence (e.g., logical-mathematical, musical, bodily-kinesthetic, intrapersonal, etc.). However, research has failed to validate these as separate measurable intelligences (Waterhouse, 2006).
- Maslow's hierarchy of needs is a particularly pervasive mythical theory that has spread like an infection to a wide range of disciplines and professions. Who has not seen the pyramid with fixed, sequential levels of "needs" purported to be universal? Yet literature reviews as early as the 1970s indicated little-to-no support for Maslow's model, including the deprivation–domination hypothesis, the gratification–activation proposition, a hierarchical organization of needs, and the universality of the model (e.g., Wahba & Bridwell, 1976). Maslow based his theory on observations of individuals he deemed "self-actualized," such as Albert Einstein and Abraham Lincoln, rather than valid empirical evidence based on culturally representative samples (Maslow, 1943). Contemporary research continues to find a lack of support for the theory and the assumptions on which it is based (e.g., Rojas et al., 2023; Saif, 2024).
- Bloom's taxonomy may not be a total myth, but for decades its categorization of cognitive skills has been described as an outdated and overly simplified model that misrepresents how learning occurs in the brain (Fink, 2013). Contemporary research indicates that learning processes are dynamic and simultaneous as opposed to strictly hierarchical. The mythological nature of hierarchical taxonomies like Bloom's can lead to misleading instructional sequencing and illusory scaffolding. While attempts have been made to revise the model, the biggest concerns that remain are the lack of empirical evidence to inform the development of the model, along with a lack of credible support for the original and revised versions. Additional critiques include outdated verbs that stifle creativity, are rigidly applied, are often irrelevant for modern learning, and are not effectively learner-centered (Fink, 2013; Francis, 2021; Gravett & Bach, 2024; Irvine, 2017; Wells, 2015).

The persistence of educational myths, as long ago highlighted by Howard-Jones (2014) and Pasquinelli (2012), is not merely of historical interest but has immediate and significant implications for curriculum

development, assessment practices, and student support strategies. Relying on discredited or oversimplified theories for instructional and student support decisions risks misdirected interventions, misrepresents students' abilities, and limits pedagogical approaches that could benefit diverse learners. In addition, perpetuating these myths as if they were evidence-based miseducates students and the communities they share their misinformation with.

Debunking the Myths

Research on cognitive biases and logical fallacies offers insights into the persistence of outdated, discredited, and undersupported theories and the mindsets that sustain misleading educational ideas (Simmering et al., 2025). Opre et al. (2025) found that the acceptance of misleading theories is embedded in broader systems of preparation, professional discourse, and institutional culture.

However, there is hope: Tunga et al. (2025) and Gerber and Sander (2025) found educational myths to be reversible, albeit resistant—at least among the populations they studied. They also found that while endorsement of several entrenched misconceptions was reduced, different beliefs required different myth debunking strategies. For university faculty, this line of research highlights the value of professional development that goes beyond simply presenting new theories: Invite educators to critically interrogate and revise existing beliefs in light of empirical and other credible evidence.

Cultivating a culture of critical inquiry around educational theories requires deliberate effort at the individual, team, and institutional levels. Faculty and administrators can begin by routinely questioning the evidentiary foundation of widely cited frameworks, asking what kinds of studies support them, in which populations, and with what limitations. Developing habits of empirical validation involves resisting the allure of seductive but unsupported claims and instead prioritizing systematic reviews, replication studies, and converging evidence from multiple methods. Structured professional development—such as seminars on cognitive biases in educational decision-making, journal clubs focused on methodological quality, and workshops that critically analyze popular theories—can help educators recognize and counter their own cognitive biases (Simmering et al., 2025). Collaborative peer discussions that scrutinize the evidence behind established practices promote collective vigilance against miseducation and normalize the revision of beliefs in response to new findings (Tunga et al., 2025). Questions to help us frame our thinking include the following:

- At a time when higher education faces growing scrutiny and its value for workforce development is questioned, what are the risks of continuing to rely on and promote mythical theories?
- How might we all challenge ourselves to apply the same critical thinking and bias-reduction strategies that we teach our students?
- Which of our content and practices would benefit from revision based on the best available evidence that integrates insights from diverse disciplines and cultural contexts?
- What are potential impacts of being transparent about the limitations of our theories and the practices on which they are based?

- How has the rise in AI, which now performs many traditional "cognitive" tasks, challenged the continued relevance of learning taxonomies, and what evidence is needed to reconceptualize or create credible frameworks that prioritize process-based, learner-centered competencies?

Ultimately, reexamining educational frameworks through evidence and critical reflection is essential for advancing effective pedagogy in higher education. Theories grounded in credible evidence can be helpful for organizing thinking about learning. However, rather than treating them as dogma, we need to be open to revising our theories and applying them with flexibility. By remaining vigilant about debunked and weakly supported theories, recognizing the role of cognitive biases and research miscitations (Simmering et al., 2025), and cultivating a habit of ongoing critical scrutiny, we can more closely align our practices with the aims of higher education. In doing so, universities not only enhance student learning outcomes but also model for students what it means to engage in genuinely evidence-based, critically reflective inquiry.

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