Creating Significant Learning Environments for the Next Generation of Heme/Onc Fellows

In *A New Culture of Learning*, Thomas and Brown (2011) challenge traditional ideas about how we learn. They describe a shift from static instruction to dynamic environments where learning happens through curiosity, collaboration, and play. For our Heme/Onc fellows at MD Anderson, this perspective aligns beautifully with what we already value: a culture of inquiry, reflection, and innovation in medical education. My innovation plan of introducing a blended learning model that integrates digital learning, simulation, and team-based education, offers an ideal opportunity to build these "significant learning environments" and prepare our fellows not to be just skilled clinicians but lifelong learners and educators. I've seen firsthand how traditional, lecture-based models limit engagement and curiosity, especially for busy clinicians balancing service and scholarship. We can and we will prepare our fellows and our faculty to thrive in a rapidly evolving medical landscape.

Making the Argument: How Significant Learning Environments Enhance Learning

Creating a significant learning environment means moving beyond lectures or static slide decks. It's about designing experiences that engage the whole learner---cognitively, emotionally, and socially. In a blended model, fellows can explore complex topics like immunotherapy or transfusion management through online modules, followed by case-based discussions and simulation labs where they apply their knowledge in real-time clinical scenarios. Challa (2021) states that case-based learning, evidence-based medicine, problem-based learning, simulation-based learning, e-learning, peer-assisted learning, observational learning, flipped classroom and team-based learning are some of the modern learning methodologies. The various learning methods discussed attend to individual learning differences allowing students to broaden their thinking and professional knowledge by improving logical and critical thinking, clinical reasoning, and time management. Early introduction of integrative approaches develops student competency and leadership equipping students for a smooth transit into the clinical practice.

This approach enhances learning by linking theory to practice, allowing fellows to learn at their own pace while still engaging in rich, collaborative experiences. According to Fink's (2013) taxonomy of significant learning, learning becomes truly impactful when it integrates foundational knowledge, application, integration, and reflection. Our blended program does exactly that, creating a loop of learning, doing, and improving. Thomas and Brown (2011) emphasize that learning should be participatory, emergent, and driven by curiosity rather than control.

Addressing Problems: Why This Approach Matters

Traditional medical education often faces three persistent challenges:

1. ***Limited time*** for faculty-led teaching in clinical settings.
2. ***Passive learning models*** that rely heavily on didactic sessions.
3. ***Inconsistent opportunities*** for fellows to apply and assess learning.

By creating a blended learning environment, we solve these issues. Online content offers flexibility and scalability. Simulation allows for safe practice and immediate feedback. Faculty coaching fosters deeper reflection. This structure supports our goal at MD Anderson to continually produce top-tier physicians who are not only clinically competent but also adaptive and innovative.

Applying Concepts from *A New Culture of Learning*

Thomas and Brown emphasize three key ideas I will apply directly:

- ***Learning through play***: Fellows can explore new concepts through interactive simulations and virtual tumor boards, where experimentation is encouraged.
- ***Embracing the unknown***: Instead of teaching only what is already known, we'll invite fellows to ask new questions, analyze real-world data, and navigate evolving literature in hematology/oncology.
- ***The power of the collective***: Through discussion boards and collaborative case reviews, fellows and faculty co-create knowledge, modeling the learning communities Thomas and Brown describe.

Challenges and How I'll Overcome Them

The biggest challenges will likely be faculty adoption and time constraints. Some faculty may be hesitant to adopt new teaching modalities, particularly if they're less comfortable with technology. Shah et al. (2024) found that even in postgraduate medical education, faculty often experience resistance and uncertainty when asked to incorporate blended learning approaches, largely due to limited digital skills and institutional support. To address this, we'll offer professional development sessions that mirror the same blended principles—hands-on, supportive, and directly applicable. Faculty will see how these approaches make teaching more efficient and impactful. Additionally, we'll ensure that digital tools integrate seamlessly into existing workflows, so they enhance, not burden, clinical teaching.

Impact on Our Organization

A blended, significant learning environment supports MD Anderson's mission of excellence and innovation in patient care and education. It empowers faculty to model continuous learning and equips fellows with adaptable skills to meet the rapidly evolving

field of oncology. Over time, this culture shift will move us toward a more collaborative, reflective, and learner-driven program—one that mirrors the learning ecology Thomas and Brown envision.

Encouraging Broad, Holistic Thinking

Again, Thomas and Brown (2011) urge educators to foster not just holistic learning but holistic thinking, an approach that connects curiosity, creativity, and critical inquiry. Holistic thinking in medical education means helping fellows see beyond protocols and pathology to the human experience of illness, the team dynamics of care, and the systems that support patients. Through blended learning, we can weave in reflective discussions, patient narratives, and interdisciplinary case studies that deepen empathy and systems-level understanding. In this sense, our innovation isn't just about changing *how* we teach, it's about broadening *what* we value in medical education. When faculty and fellows engage in open ended exploration, they develop the ability to see connections across disciplines, navigate ambiguity, and innovate in patient care. This mindset is essential for medicine, where no two patients or challenges are alike.

Conclusion: Shaping My Learning Philosophy

This shift toward significant learning environments has reshaped my own philosophy. I see myself as a learning architect, someone who designs experiences that invite curiosity, connection, and growth. As Thomas and Brown remind us, learning thrives when curiosity drives the process. At MD Anderson, where excellence is our standard, this mindset ensures our fellows are not only experts in their field but also lifelong learners who will continue to advance medicine. Creating significant learning environments represents a cultural and pedagogical shift, from information delivery to curiosity-driven exploration. For our Heme/Onc faculty and fellows, this means transforming teaching into a shared, living process that grows with our learners and our field. By combining a new culture of learning with the principles of blended learning, we can build a model that not only improves education but also strengthens our collective capacity to lead and innovate in the face of constant change.

References

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