Learning Beyond the Right Answer

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As a first-year medical student at the Oakland University William Beaumont School of Medicine (OUWB), I have spent the past year learning in a curriculum centered around Team-Based Learning (TBL). Through repeated TBL sessions, I have seen how the structure depends on preparation, accountability, discussion, and application. At the same time, artificial intelligence is rapidly reshaping how students learn and study. These parallel developments have made me interested in how medical education can evolve alongside emerging technologies while still preserving the human accountability and team-driven skills that define effective physicians.

This interest led me to participate in a medical education research project examining how pre-clinical medical students use conversational artificial intelligence tools as "virtual study partners." The project explores whether students are increasingly replacing traditional group study and peer discussion with large language models such as ChatGPT. As I became more involved in the project, I began thinking more critically about a difficult question: if AI can summarize information, generate explanations, quiz students, and provide instant feedback, what is still uniquely valuable about learning with other human beings? Over the course of my first year, I realized the answer extends far beyond simply arriving at the correct answer. TBL taught me how to communicate under uncertainty, listen to competing explanations, build trust through preparation, and accept accountability within a team. These are skills that AI can support, but cannot fully replace.

At OUWB, our TBL sessions begin with an Individual Readiness Assessment Test, or iRAT, where students independently complete a timed quiz based on assigned pre-work. Afterward, we immediately retake the same quiz as a team during the Team Readiness Assessment Test, or tRAT. For our grade, the team portion carries more weight than the individual portion, emphasizing collective accountability over isolated performance. This process reflects the social construction of knowledge: each student brings preparation into a group setting, and the team builds a stronger understanding through discussion and explanation. InteDashboard supports this process by making the structure immediate and transparent. Instead of waiting days for feedback or using older scratch-card methods, our teams submit answers through the platform and receive instant confirmation. That immediate response creates a memorable "moment of truth" for the team, whether it produces validation, surprise, or a collective groan.

The readiness assurance process is only the beginning. After the iRAT and tRAT, much of a two-hour TBL session is spent on application exercises, which are intentionally more difficult and clinically oriented. These exercises follow the core TBL framework of significant problems, same problem, specific choice, and simultaneous reporting. The problems are significant because they require students to apply knowledge to realistic clinical scenarios rather than simply recall facts. Every team works on the same problem at the same time, and each team must make a specific choice before reporting its answer simultaneously to the class. During multiple-choice application exercises, teams physically raise colored answer cards so the entire classroom can immediately visualize differences in reasoning across groups. During free-response or image-based application exercises, InteDashboard further supports simultaneous reporting by displaying team responses in real time, allowing the class to compare interpretations, discuss disagreements, and evaluate different clinical approaches together.

One application exercise during our hematopoietic-lymphoid organ system course fundamentally changed how I viewed teamwork and the limitations of artificial intelligence. It was the first TBL session with my new winter-semester team. During the fall semester, I had worked with a different group of classmates, so this session represented a fresh start socially and academically. The topic for the session was carbon monoxide poisoning. Before class, we had reviewed lecture slides related to hemoglobin physiology and completed supplementary reading from UpToDate discussing smoke inhalation. Like many medical students today, I had also used AI while preparing. I uploaded the supplementary material into ChatGPT and asked it to help identify likely testable concepts and important clinical associations. One recurring idea it emphasized was the association between smoke inhalation and cyanide poisoning. That detail stood out to me, but I did not stop at the AI-generated summary. During my pre-work, I returned to the reading and ensured I understood the mechanism more clearly: enclosed-space fires involving synthetic materials can release cyanide, which impairs cellular respiration and can cause severe toxicity despite oxygen delivery.

The iRAT and tRAT went smoothly. My team worked efficiently, and we reached consensus quickly on the readiness questions. The more meaningful discussion emerged later during an application exercise. The case described a patient involved in a house fire who was being transported to the emergency department. We were asked to identify the most likely underlying condition or complication affecting the patient. I selected cyanide poisoning, and another student agreed with me. The remaining four members of our six-person team initially favored a different answer, possibly methemoglobinemia. At first, it would have been easy to treat the discussion as a vote and move on. We were outnumbered four-to-two. Instead, I asked whether we could slow down and hear both sides before finalizing our team's specific choice.

That was when the value of TBL became most obvious. I listened as the other four students explained why they preferred the alternative answer. Their reasoning was not careless, but it did not fully account for the clinical details in the case or the supplementary reading. Some had relied more heavily on the lecture slides and had not reviewed the additional material as closely. Rather than insisting I was correct, I tried to respond to their reasoning. I explained why smoke inhalation in a house fire raised concern for cyanide toxicity, how this differed from the alternative diagnosis, and why the context made cyanide poisoning the stronger answer. The discussion forced me to integrate what I had learned from AI-assisted preparation, the assigned reading, and my classmates' objections in real time.

This experience taught me that trust in a team is earned, not given. If I had only said, "Trust me, AI flagged this," I would not have deserved the group's confidence. The more meaningful skill was translating preparation into a clear explanation that helped my teammates understand the reasoning for themselves. In that moment, TBL became a form of peer teaching. I was not just trying to win a debate. I was trying to teach the concept well enough that the group could make a shared decision. At the same time, my classmates were teaching me by challenging my explanation, forcing me to clarify gaps, and making sure our final answer was not based on overconfidence. The team eventually moved from a divided four-to-two split to a shared decision to select cyanide poisoning.

When we submitted the answer through InteDashboard and saw the confirmation, I reacted before I could stop myself. I remember blurting out, “Let’s go!” almost immediately. I felt relief, excitement, validation, and pride, but I also felt grateful that my classmates had given my explanation a fair hearing. The platform mattered because the immediate feedback reinforced the learning cycle. InteDashboard did not just record whether we were right or wrong. It made the team’s decision visible, timely, and memorable. Once the broader class responses appeared, the discussion naturally shifted from intrateam reasoning to interteam discussion. Comparing answers across groups encouraged us to defend our reasoning, evaluate alternative approaches, and continue refining our clinical interpretation as a larger learning community.

For the rest of the semester, our group discussions felt noticeably different. My teammates did not suddenly assume I was always correct, which would defeat the purpose of collaborative learning. Instead, the experience made our group more willing to slow down, explain reasoning, and listen carefully when someone had a minority view. We learned that productive collaboration is not simply majority voting or rapid consensus. It requires accountability and the humility to consider that a quieter or outnumbered voice may still have the stronger explanation. We also learned that team spirit is built through repeated moments like this, where members contribute, challenge one another, and improve together. Difficult application questions sometimes continued into hallway conversations, bonding us through shared struggle and curiosity.

This experience also helped me understand my research question about AI and group learning more clearly. AI can provide information instantly. It can summarize textbooks, generate flashcards, create practice questions, and explain concepts conversationally. In many ways, conversational AI models now mimic several educational functions traditionally fulfilled by peers and study groups. Educational literature has demonstrated that peer-assisted learning and collaborative group study can improve engagement, retention, and application of knowledge in medical education.[1,2] Researchers have also begun examining how conversational AI models may replicate components of active learning through iterative dialogue, retrieval practice, clarification, and feedback.[3] That overlap is what makes AI so exciting as a learning tool, but it also highlights what remains distinct about human learning environments.

My experience in TBL showed me that collaborative learning is not valuable only because it helps students get the answer right. It is valuable because it develops real-time integration of knowledge. During the application exercise, I had to listen to my teammates, analyze their explanations, compare them with my own understanding, and present a counterargument that was accurate and understandable. A chatbot can respond to prompts, but it does not recreate the interpersonal pressure of explaining yourself to five peers who may disagree with you. It does not help you practice earning trust from people who have their own knowledge, doubts, and personalities. It also does not recreate the accountability of knowing that your explanation affects your team’s shared decision.

I believe AI will continue transforming medical education for the better. However, my experiences in medical school have taught me that using AI judiciously still depends on strong foundational human skills. Researchers have increasingly warned that while AI can accelerate learning efficiency, students still need reasoning and evaluation skills to assess AI-generated

information and recognize inaccuracies.[4] I have seen large language models hallucinate citations and confidently provide flawed explanations. AI excels at pattern generation and prediction, but it does not truly understand context or consequence in the way humans do. Ultimately, the value of AI depends heavily on the judgment of the person using it.

Experiences like this are why I believe TBL remains important in an increasingly AI-enabled world. TBL develops skills that are fundamentally interpersonal and difficult to automate: communication, accountability, adaptability, leadership, persuasion, emotional intelligence, and what some educators now describe as social quotient (SQ), the ability to work effectively and thoughtfully within human relationships and teams. These skills are central to medicine. Patients will increasingly arrive at appointments having already searched symptoms online or used AI tools to better understand possible diagnoses. Physicians of the future will not simply compete against AI-generated information. They will help patients interpret information, navigate uncertainty, make difficult decisions, and feel understood as human beings.

Modern healthcare also depends on interprofessional collaboration. Physicians work with nurses, pharmacists, therapists, social workers, consultants, administrators, and, most importantly, patients. Clinical decisions often involve ambiguity, disagreement, incomplete information, and competing priorities. In those situations, technical knowledge alone is insufficient. The ability to build trust within a team becomes essential. My experience during that TBL application exercise demonstrated this clearly. The most important part of the session was not memorizing an association between smoke inhalation and cyanide poisoning. It was learning how to prepare well, explain clearly, listen carefully, teach peers, and earn trust through sound reasoning.

Artificial intelligence may continue evolving into an increasingly sophisticated educational partner. I welcome that future, and I expect AI to remain part of how I learn and practice medicine. Yet the skills that make teams effective, workplaces functional, and physicians trustworthy remain deeply human. TBL helped me recognize that while AI can strengthen many aspects of learning, it cannot replace the experience of working through uncertainty with other people. Learning beyond the right answer means learning how to think with a team, build trust through preparation, and communicate in a way that helps others move forward with you. Those skills will matter long after the next technology changes how students study.

Honor Code Statement

I certify that this essay is my original work and accurately reflects my personal experiences with Team-Based Learning. I have not used AI tools to generate content, except for editing, and have disclosed any AI assistance. I understand that failure to comply may result in disqualification from the competition.

References

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