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Abstract:
This paper proposes a "play triad" of curiosity, divergent thinking, and a freedom to fail which fosters a healthy learning environment for successful medical education. Traditional medical education has focused on individual mastery and rote memorisation, but a shift towards small group learning centering on adaptability, collaboration, and clinical application of knowledge is needed. The success of this communal learning is fostered through the elements of play, a curiosity-driven exploration of hidden potential. Curiosity is the importance of moving from knowing right answers to slowing down and grappling with the why behind the answers we hold true. Divergent thinking builds on the complexity of medical education and being willing to value creative exploration and multiple perspectives. Finally, freedom to fail is the awareness that "wrong answers" are often our greatest teachers. By framing learning around the elements of play, educators can cultivate a growth mindset, creativity, and critical thinking, enabling students to navigate the uncertainties and challenges of the medical profession.

Key Words:
Medical Education, Adaptability, Curiosity, Creativity, Innovation

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As a parent, I would often take my 1-, 2- and 5-year -old daughters to the science centre, seeking a fun activity that a sleep-deprived parent could still navigate. One of our favourite stops was the chemistry kitchen, where science came to life through cooking. Fruit flambé in which fruit is cooked in a pan with alcohol creates a huge flame that captured my girls' attention and the opportunity to talk about the key components of fire. The fire triad teaches that a spark, fuel, and oxygen, must all be present for the fireball to form in the pan. This playful approach to teaching my daughters the chemistry of fire through cooking has made me consider, what is needed to ignite a healthy learning environment in medical education? I propose a play triad: curiosity as the spark, divergent thinking as the fuel, and freedom to fail as the oxygen that fosters collaboration, creativity and growth.

Traditional medical education has long emphasised individual mastery of knowledge and technical skills. Students are required to absorb and retain vast amounts of information through didactic instruction, then prove proficiency via standardised testing. However, the landscape of medical education has shifted in recognition that adult learners need to focus less on rote memorisation and more on the adaptability, application, and collaboration of knowledge in clinical settings. The shift has led medical education to move from traditional lecture halls to small group classrooms.[1] Yet, the transition to small group learning is only the starting point and requires the development of a collaborative, creative, and safe space that enables learners to flourish together. One potential approach to fostering a healthy classroom culture is to focus on play, including the key components of curiosity, divergent thinking, and the freedom to fail.[2]

This paper explores the importance of integrating a playful mindset into the culture of medical classrooms. It argues that the attributes of flexibility, innovation, and growth mindset fostered through play are essential for creating a safe and effective learning environment. By framing the educational experience around the dynamics of play, medical educators can better equip students to navigate the uncertainties of the medical profession, develop collaborative team skills, and cultivate a growth mindset.

Curiosity

Curiosity is the first spark of a playful culture. My oldest daughter when she was three years old was part of a soccer club. During games, she would

often stop in the middle of the field to pick a flower and show it to her friend. Curiosity is the child-like desire to slow down and explore, learn, and understand about hidden goodness in plain sight. In the context of medical education, curiosity is essential for students to move beyond rote memorisation and engage with each other in a meaningful way. Curiosity allows students to ask questions, dig deeper into concepts, and challenge existing paradigms.[3]

A classroom culture that encourages curiosity focuses on the ability to slow down and not just cover information but rather grapple with the "why." The key is how to create a space that values quality over quantity of information. This conceptually makes sense, but the practicality of it is more challenging. The first step is we must name the reality. Medicine is a career where everything is always moving faster, until there is a blur of urgency instead of understanding the present. Therefore, we must purposefully choose to slow down and see the now, we must practice mindfulness. One simple practice is to start each session with a 5-minute reflection exercise linked to your case for the day. If you are studying heart failure, then ask your students to write everything they know about heart failure for 4 minutes, and then in the last minute, ask them to write 3 questions they still have about the topic. The practice of reflection allows students to start with an opportunity to centre on the topic and have space to consider their questions before jumping into the avalanche of information. Curiosity is the spark that ignites the healthy learning environment.[4]

Divergent Thinking

The second component, divergent thinking, is the fuel that drives collaborative inquiry. With divergent thinking, the aim is to generate multiple possible solutions to a given problem. Unlike convergent thinking, which focuses on finding the one correct answer, divergent thinking values creative exploration and multiple perspectives. In medical education, divergent thinking is vital for developing clinical reasoning where there may not be a single, clear solution.[5]

A playful classroom culture actively encourages divergent thinking by presenting students with scenarios that do not have one "right" answer. Traditional medical education relies on fact retrieval of tests to identify key "buzz" words that lead to the one correct answer. In clinical case workshops, students might be asked to approach a scenario where symptoms are ambiguous, requiring them to think broadly and consider a range of possibilities. By providing students with opportunities to brainstorm solutions, explore multiple avenues of thought, and weigh different approaches, educators can cultivate a mindset that values creativity and flexibility.[6] Divergent thinking is a muscle that must be exercised to be maintained. One technique to support this process is the use strategic "stretch activities." The opportunity to allow students to step away from the grind of the medical mindset and participate in small group activities that encourages this mindset. An example of this is the paperclip activity, in which students are given a standard paperclip and asked to think of as many uses for that paper clip in 2 minutes as possible. At the end of this exercise, I share with the students that the average adult comes up with 10-15 uses while the average kindergartener will come up with approximately 200 uses in 5 minutes. As adults we have learned all the rules that put our thought processes in boxes that restrict creativity, therefore these exercises can be important to challenge this convergent mindset.[7] As we make these "stretch activities" part of the rhythm of our classroom, it becomes the culture that we are able lean into our divergent thinking when we get stuck in a clinical case. I will even name that we are going to remember to be playful and think outside the box when a student respond that they don't know the answer. I will say something like, "well tell me what you do know and how do you think that helps you with a possible answer." We remember that wrestling with the answer to the question even with a wrong answer is the first step in truly learning.

Furthermore, Divergent thinking also promotes collaboration. We often challenge those stuck points in our thinking when we allow a collaborative multi-perspective approach drive our problem solving process. In real-world medical practice, multiple specialists often need to contribute their expertise to solve complex patient problems. By encouraging students to think divergently, educators help them develop the collaborative practices needed to work effectively in multidisciplinary teams. It also prepares students to handle the ambiguity and uncertainty inherent in patient care, where multiple plausible explanations may exist for a given set of symptoms.[8]

Freedom to Fail

In the fire triad the oxygen is necessary to feed the flame and in the same way the psychological safety of a freedom to fail gives life to the playful learning environment. Without the creating of a space to take risks curiosity and divergent thinking will flicker out. In traditional educational settings, failure is often viewed as an individual negative outcome to be avoided at all costs. However, research in educational psychology has shown that failure can be one of the most powerful learning experiences, provided it is framed as an opportunity for growth.

In medical education, where stakes are high, students often feel intense pressure to know and answer every question correctly. However, a culture that allows for failure can foster resilience, perseverance and safety.[9]

Crucially, this freedom to fail must be situated within an environment where students feel psychologically safe. In such a learning environment, students are not only free to make mistakes but are also supported in reflecting on and learning from those mistakes without fear or judgement. When educators establish a culture of trust, where mistakes are viewed as part of the process rather than as a source of shame, students are more likely to take risks and engage in critical thinking. This culture of safety and support helps to reduce the anxiety often associated with failure, allowing students to approach challenges with greater openness and creativity.[9]

Developing this culture is rooted in relationships and a crucial element of this learning environment triad. As such, one techniques or skills does not achieve a culture of trust, but there **are** tools available to help facilitate this culture. One key aspect is the "roll-out speech." When a new cohort of students is introduced, the teacher must set clear expectations or rules for the small group. For example, the teacher should emphasise that "wrong answers" are expected and are essential for learning.

As the group matures, techniques like cold calling, with a focus on voice equity, ensure that all students contribute. Even if an answer is not fully correct, the teacher should encourage the group to build on answers, working together to achieve success. Finally, gamification, such as using "Jeopardy" or "Quizlet," allows students to test their knowledge in real time within a fun environment. This not only boosts cohort morale but also helps students identify their strengths and areas for improvement.

Failure in the context of the learning environment helps students confront the uncertainty and complexity of medicine. The ability to make decisions in the face of ambiguity, experiment with different approaches, and learn from errors is essential for lifelong learning and professional development. A safe environment encourages this kind of exploration, providing students the psychological space to test hypotheses, pivot when necessary, and grow from each experience. By cultivating a classroom environment where failure is seen as part of the learning process, educators can help students build the resilience needed to thrive in the challenging and dynamic field of medicine.[10]

Conclusion

As my kids grew up, our street had over forty children on one block which meant that summer was a time to run up and down the street from house to house and explore. One of the favourite activities was development of a play. The kids would spend all day being curious to develop a story about some funny aspect of the street, usually about the adults. They would think divergently as they developed their costumes and set with whatever was available, including those things we thought of as broken or waste. Finally, they would perform their drama for the adults even in its unpractised form without fear or doubt. This natural demonstration of play created an atmosphere of safety, creativity and collaboration.

The incorporation of play into medical education offers a promising pathway to developing the next generation of physicians. By fostering curiosity, encouraging divergent thinking, and embracing the freedom to fail, educators can create a classroom culture that is engaging, supportive, and conducive to lifelong learning. Play, far from being a frivolous activity, serves as a powerful tool to cultivate the qualities of creativity, innovation, adaptability, and collaboration that are essential in a healthy learning environment.

References

1. Koles, Paul G., Adrienne Stolfi, Nicole J. Borges, Stuart Nelson, and Dean X. Parmelee. "The impact of team-based learning on medical students' academic performance." *Academic Medicine* 85, no. 11 (2010): 1739-1745.
2. Hsiang-Te Tsuei, Sian, Dongho Lee, Charles Ho, Glenn Regehr, and Laura Nimmon. "Exploring the construct of psychological safety in medical education." *Academic Medicine* 94, no. 11S (2019): S28-S35.
3. Schwarz, T. A., Nikendei, C., Cranz, A., Friederich, H. C., & Bugaj, T. J. (2023). An untapped potential: Curiosity in medical school. *Medical Teacher*, *46*(7), 939–947.
4. Ryznar, Elizabeth, and Rachel B. Levine. "Twelve tips for mindful teaching and learning in medical education." *Medical teacher* 44, no. 3 (2022): 249-256.
5. Ho, Yueh-Ren, Bao-Yu Chen, Chien-Ming Li, and Edward Gao-Yi Chai. "The distance between the humanities and medicine: Building a critical thinking mindset by interdisciplinary dialogue through mind mapping." *Thinking Skills and Creativity* 50 (2023): 101420.
6. Perrmann-Graham, Jaclyn, Jing Liu, Carole Cangioni, and Sandra E. Spataro. "Fostering psychological safety: Using improvisation as a

team building tool in management education." *The International Journal of Management Education* 20, no. 2 (2022): 100617.
7. Abbasi K. A riot of divergent thinking. *J R Soc Med.* 104 no 10 (2011):391.
8. Maudsley, Gillian, and Janet Strivens. "Promoting professional knowledge, experiential learning and critical thinking for medical students." *Medical education* 34, no. 7 (2000): 535-544.
9. Berman, William. "When will they ever learn? Learning and teaching from mistakes in the clinical context." *Clinical L. Rev.*13 (2006): 115.
10. Klein, Jill, Clare Delany, Michael D. Fischer, David Smallwood, and Stephen Trumble. "A growth mindset approach to preparing trainees for medical error." *BMJ Quality & Safety* 26, no. 9 (2017): 771-774.

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