

# Kamila Bekshentayeva

## A fragment from my application to MIT SEPT program

Please submit a short response in writing (up to 500 words or 1 page) answering the following questions:

- Your approach to innovation in the classroom
- How you've applied professional development or other experiences to your teaching
- What you hope to gain from spending a week at MIT

Innovation in my classroom begins with teaching 2D/3D design, electronics and programming, while exploring empathy, creativity, and the ethical use of technology. Innovation further thrives when my students extend their learning beyond the classroom and apply it to the real world. With approximately 250 students per semester, I have observed that engagement peaks when students connect the design and computer science skills they develop in my lessons to meaningful projects with global relevance.

For example, when Grade 7 students explored form and function, they interviewed our school community and pitched solutions to a local furniture designer before prototyping ergonomic chairs. They discovered that creativity must survive the rigors of real-world constraints. In another project, students, when inquiring into user-centered design, interviewed Grade 2 children about their favorite characters and hobbies, then 3D-printed custom figures to bring those ideas to life. During a sustainability unit, students built draw-bots from reused materials, uncovering that environmental awareness sparks inventive design. Even setbacks become pedagogical moments: when two drones were stolen during a city competition, my team had to reconfigure new hardware under extreme pressure. They placed seventh but gained something far more valuable: resilience and renewed drive to improve. Experiences like these show that creativity, problem solving, and perseverance underpin true innovation beyond the classroom.

My teaching and professional growth continuously inform and strengthen each other. Through postgraduate studies, IB Design workshops, safety trainings, I have refined how I integrate technologies into age-appropriate lessons. My "philosophy of practice" is a direct bridge between the Mens et Manus ethos and my professional history. My six years of engineering studies and industry tenure - from quality control at Samsung and sales analysis at IBM to data science in an AI healthcare startup - help me translate authentic workflows into student projects to link learning and real-world evaluation.

As an overseas Girl Scouts leader and Technovation Kazakhstan mentor, I connect global STEM initiatives with classroom realities, fostering confidence - especially among girls exploring technology. Growing up in Kazakhstan, where opportunities in tech were scarce for girls, taught me to recognize possibilities where others see obstacles. This perspective helps me identify "hidden gems" among my current students in Shanghai; I recognize high-potential creators who may feel overshadowed by the immense pressure of test-driven cultures, and I show them that there is not only one path to success.

At MIT SEPT, my aim is to engage with a global community of experts to both learn

and contribute best practices, exploring how these insights can be meaningfully adapted to my school's unique bilingual and cultural context. Post-SEPT I hope to share insights from this experience with educators in emerging regions of China by leading professional development workshops and drafting a blueprint for our school's Innovation Lab - an open space where students and teachers learn and create through playful, purposeful innovation, shifting from test-driven approaches toward experiential learning. My first steps toward this vision began with making active learning more inclusive to both students and teachers. I started developing simple educational applications supported by AI, such as PocketAI - an intelligent agent that helps learners explore the fundamentals and ethical use of AI. Though it didn't place in a recent innovation competition because I focused too heavily on technical specs over user-centric "storytelling," the experience was a vital lesson in design communication. Nevertheless, PocketAI became a valuable learning tool in my AI co-curricular activity and in a pilot teacher-learning group, promoting curiosity, collaboration, and equitable access to technology.

My ultimate goal is to refine my teaching to respond to rapid technological change, unique language and cultural contexts, and prepare students to become thoughtful creators, resilient learners, and responsible global citizens.