

STEM Journey through My Life

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Introduction

•Welcome to my presentation showcasing the STEM journey of one educator from Seoul, Korea, to Bloomington, IN, Duluth, MN, and Arlington, Texas.
•Follow the linked words along as I explore the experiences and insights gained through living and working in diverse STEM communities.

Ch.1 Seoul, Korea – The Birthplace of STEM Curiosity

Born and growing up in [Seoul, Korea](#), [STEM education](#) was ingrained in my daily life from an early age. My parents encouraged my curiosity about science, technology, engineering, and math (STEM) through [hands-on activities](#) and visits to science museums. In school, I was fascinated by the [innovative teaching methods](#) that made complex STEM concepts accessible to students of all ages. The [rich cultural heritage of Korea](#) also influenced my STEM journey, as I learned about [traditional Korean architecture](#), engineering marvels like [the Seoul Tower](#), and the country's [advancements in technology](#).



Ch.2 Bloomington, IN – Nurturing STEM Excellence

As I embarked on my study abroad journey in [Bloomington, Indiana](#), I discovered a vibrant STEM community that fostered academic excellence and innovation. The [renowned Indiana University](#) provided a fertile ground for exploring diverse STEM fields, from biology and chemistry to computer science and mathematics. The campus was buzzing with [research opportunities](#), [STEM-related clubs](#), and state-of-the-art facilities that fueled my passion for learning. I also had the privilege of experiencing [American culture while immersing myself in STEM education](#), [gaining a global perspective on scientific advancements](#).



Ch.3 Duluth, MN – Embracing STEM Diversity

Transitioning to [Duluth, Minnesota](#), marked the beginning of my career in teaching science education at the [University of Minnesota Duluth](#). Located on the shores of [Lake Superior](#), Duluth offered a picturesque backdrop for exploring the natural sciences. As I engaged with students from diverse backgrounds, I witnessed the power of [STEM education](#) in fostering [critical thinking](#), [problem-solving skills](#), and [environmental stewardship](#). The university's commitment to [interdisciplinary research](#) and [community outreach](#) enriched my understanding of [STEM's impact on society](#).



Ch. 4 Arlington, TX – Empowering STEM Educators

My journey led me to [Arlington, Texas](#), where I embraced the opportunity to teach science education at a [second university](#). The vibrant STEM ecosystem in Arlington provided ample resources for professional development, including [workshops](#), [conferences](#), and collaborations with [industry partners](#). I was inspired by the dedication of educators and students alike to promote [STEM literacy](#) and innovation in the community. From [STEM Talk competitions](#) to [STEM summer camps](#), Arlington's dynamic educational landscape reaffirmed my commitment to empowering the next generation of STEM leaders.



Ch. 5 Conclusion

As I reflect on my journey through Seoul, Bloomington, Duluth, and Arlington, I realize that it has been an incredible adventure filled with learning, growth, and discovery. From my early years in Seoul, where I was fascinated by the vibrant science and technology culture, to my time in Bloomington, Duluth, and finally Arlington, where I furthered my education and career in STEM, each step has shaped me into the person I am today. But this journey is far from over; it is merely the beginning of a lifelong pursuit of knowledge and innovation in the world of science, technology, engineering, and mathematics (STEM).

Ch. 6 My Future

Looking to the future, I see endless possibilities and opportunities to continue my exploration of STEM. One of my aspirations is to contribute to groundbreaking research in the field of [artificial intelligence](#), pushing the boundaries of what is possible and unlocking new insights into how we can harness technology to solve complex problems. With the rapid advancements in AI, I am excited to immerse myself in this dynamic and ever-evolving field, collaborating with fellow researchers and experts from around the world to tackle some of society's most pressing challenges.

Additionally, I am passionate about STEM education and its role in inspiring the next generation of innovators and problem solvers. I envision myself playing a pivotal role in [shaping STEM curricula](#), [designing engaging and interactive learning experiences](#), and [fostering a love for science and technology in students of all ages](#). Whether through teaching, mentoring, or outreach initiatives, I am committed to empowering learners and equipping them with the skills and knowledge they need to thrive in an increasingly STEM-driven world.



Moreover, I aspire to [bridge the gap between academia and industry](#), leveraging my expertise to drive innovation and facilitate technology transfer. By collaborating with leading companies and organizations, I aim to translate cutting-edge research into real-world applications that have a positive impact on society. Whether it's developing [sustainable energy solutions](#), [advancing healthcare technologies](#), or [revolutionizing transportation systems](#), I am eager to contribute to meaningful projects that drive progress and improve people's lives.

In my journey beyond Arlington, I see myself embracing new challenges, seizing opportunities for growth, and making a difference in the world through my passion for STEM education. With determination, perseverance, and an unwavering commitment to excellence, I am ready to embark on the next chapter of my STEM education odyssey, knowing that the possibilities are limitless, and the future is bright. Together, let us continue to push the boundaries of knowledge, inspire innovation, and shape a better tomorrow through the power of STEM.



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References

- Chu, H.E., Martin, S., Kim, E., Lee, H. (2022). Arts-Integrated STEM in Korean Schools. In: Cheng, M.M.H., Bunting, C., Jones, A. (eds) Concepts and Practices of STEM Education in Asia. Springer, Singapore. https://doi.org/10.1007/978-981-19-2596-2_12
- Dayton, L. (2020). How South Korea made itself a global innovation leader: Systemic reform backed by strong investment has brought rapid and long-lasting results. *Nature* 581, doi: <https://doi.org/10.1038/d41586-020-01466-7>
- Erol, A., Canbeldek Erol, M. The Relationship Between Attitude Towards STEM Education, Self-Efficacy in STEM Education, and Constructivist Beliefs of Early Childhood Teachers. *Journal for STEM Educ Res* 7, 12–28 (2024). <https://doi.org/10.1007/s41979-023-00111-y>
- Fastigi, W. (2023). The Relationship between STEM education and Environmental Sustainability, Technology for Learners, <https://technologyforlearners.com/the-relationship-between-stem-education-and-environmental-sustainability/>
- Hong, O. (2017). STEAM Education in Korea: Current Policies and Future Directions. In *Policy Trajectories and Initiatives in STEM Education* (pp. 1-15). Seoul, Korea: Korea Foundation for the Advancement of Science & Creativity.
- Li, Y., Wang, K., Xiao, Y. et al. Research and trends in STEM education: a systematic review of journal publications. *IJ STEM Ed* 7, 11 (2020). <https://doi.org/10.1186/s40594-020-00207-6>
- Park, J., Teo, T.W., Teo, A. et al. Integrating artificial intelligence into science lessons: teachers' experiences and views. *IJ STEM Ed* 10, 61 (2023). <https://doi.org/10.1186/s40594-023-00454-3>
- Smith, K.; Maynard, N.; Berry, A.; Stephenson, T.; Spiteri, T.; Corrigan, D.; Mansfield, J.; Ellerton, P.; Smith, T. Principles of Problem-Based Learning (PBL) in STEM Education: Using Expert Wisdom and Research to Frame Educational Practice. *Educ. Sci.* 2022, 12, 728. <https://doi.org/10.3390/educsci12100728>
- Willmore, J. (2023). AI education and AI in Education, National Science Foundation, <https://new.nsf.gov/science-matters/ai-education-ai-education>
- Xu, W., Ouyang, F. The application of AI technologies in STEM education: a systematic review from 2011 to 2021. *IJ STEM Ed* 9, 59 (2022). <https://doi.org/10.1186/s40594-022-00377-5>