

Student Success

NIKITA PATEL



Nikita Patel, a Class of '22 Wilson High School graduate, attended the Total Experience Learning (TEpL) program at young age with a true passion for biology and healthcare and an entrepreneurial spirit. With the help of TEpL, Nikita was introduced to Bioactive glass particles. The program provided specialized equipment needed to explore her ideas.

Nikita was interested in needleless drug delivery, which she defined as a modified, unique drug delivery system. With the help of TEpL founder Dr. Adelle Schade, who served as Nikita's mentor, she developed a band-aid-like unit featuring a concealed membrane that houses several microscopic sphere capsules designed to penetrate the skin and deliver specific dosages over a designated period.

Once the capsules penetrate the skin, they become present in the bloodstream allowing daily slow release of medications for up to 30 days. "My invention provides a comfortable form of chemotherapy, personalized prescription patches and an easy form of application for people with Alzheimer's disease." Total Experience Learning assisted Nikita in securing a provision patent for her invention. She has presented her invention to pharmaceutical companies nationwide and has gone on to trademark her product.

Recently as an undergrad, Nikita was awarded 1st place for her invention, competing against 772 medical and Ph.D. students across 57 colleges, at the New York Business Plan Competition finals in the Health & Wellbeing track. Total Experience Learning methodology provides students the opportunity to transcend a traditional classroom setting and uncover their true genius.

Empowered Educator

RACHEL SEBASTIAN



Rachel Sebastian, an extraordinary educator with 27 years of experience, has a passion for learning and creating that has shone through her work as an elementary school librarian at Brecknock Elementary in the Governor Mifflin School District.

Rachel utilizes Total Experience Learning (TEpL) methodologies as an educator. "TEpL recognizes the genius in every child, and I am grateful to be a part of those celebratory moments every day! It is a beautiful thing to nurture engaged, passionate learners who have such a strong desire to make the world a better place!"

Every day, she witnesses the joy of children racing to find their new, favorite book. Rachel fosters a lifelong love of reading and implements Total Experience Learning methodologies that "ignite students' excitement for learning and for coming to school." She has found that utilizing community stakeholders, an important component of TEpL, has helped her recognize that learning resides in our community and not merely within the walls of a school building.

Total Experience Learning provides educators with measurable personal and professional success through interdisciplinary learning experiences that encourage inquiry, ingenuity and agency in their classrooms. Rachel finds inspiration in her colleagues and is energized every day by their passion and commitment to fostering engaged, passionate learners. She is changing the world one reader at a time!

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ENRIQUE LOPEZ



Enrique Lopez's journey with TExPL began in 2019 at Conrad Weiser. As a middle schooler in the Reading School District, he had a strong fascination with the science of holograms and the physics of light. In ninth grade, with the help of educators and mentors from Total Experience Learning, Lopez began what would develop into a two-year long research project on the effect of red/ near infrared light on the growth of new neurons. This project led to TExPL applying and receiving a \$50,000 grant from the Berks County Community Foundation to conduct research on Alzheimer's. He asked the question: "Could red/ near infrared light therapy help neurogenesis in Alzheimer's patients?"

His research began with exploration of a model organism, and a way to measure this effect on the organism. Through his research, he found the protein SIRT1, which is produced during the growth of new neurons. This led his research to find that this is produced in both humans and C. Elegans. The TExPL team and Enrique were able to find a green fluorescence protein (GFP) tagged version of C. Elegans that interacts with the SIRT1 protein. Lopez knew that this process caused the worms to bio fluoresce green when this protein is made, and by proxy new neurons could be formed. He then measured whether this process had any effect on the worms. Recognizing the profound connection between light and neurogenesis, Enrique designed his project by growing C. Elegans with the GFP tag and then exposing them to a timed treatment of light colors. The treatment groups of red light, near infrared light, white light, and no light were used to measure any stimulated neurogenesis in the worms. He successfully obtained some intriguing preliminary data to support his hypothesis.

His remarkable work will not only advance our understanding of neurological diseases but also has ignited a passion for research in his peers, inspiring additional Alzheimer research conducted by Total Experience Learning students.

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ABBY ROBINSON



Abby's scientific journey began as a 9th grade student in the TExPL after-school program at Conrad Weiser, where her first project focused on Pau Pau plant leaves. Later that year, she shifted gears to study antibiotic-resistant genes in local waterways, gaining international recognition for her work. "Through the mentorship I received, I was really encouraged to think critically and develop my problem-solving skills. I carry that with me every day, whether that's in class or in the lab or anything that I'm doing."

Now a college sophomore, Abby spent this summer as a full-time research assistant in a microbiology lab, contributing to a groundbreaking study on the protein ProQ and its role in regulating pathogenicity genes in Enteropathogenic E. coli.

Abby reflected on the skills she developed through the hands-on nature of Total Experience Learning student programs. "It gave me a very well-rounded foundation of lab skills, helping me transition to college labs. We did cell culturing, bacterial culture, a lot of different microbiology techniques. I learned Q, PCR, and quantitative polymerase chain reaction with DNA bar coding."

Her hard work culminated in co-first authorship on a paper published in ScienceDirect, one of the top journals in the field. This achievement marks a major milestone in Abby's career, bringing her closer to her goal of making lasting contributions to science. From high school experiments to a published researcher, Abby's journey is a testament to the power of curiosity, dedication and passion that Total Experience Learning uncovers.

Educator Testimonials

Total Experience Learning (TEpL) has transformed my approach as an educator and has been a catalyst for incredible growth in my classroom. It has empowered me to create more engaging, hands-on experiences that connect classroom learning to real-world applications. It has fostered deeper connections between my students and the community and empowered them to take charge of their learning while exploring innovative solutions for the future. TEpL has not only deepened my students' understanding and broadened their perspectives but has also reignited my passion for teaching by making education more dynamic and impactful.

LIZ GARDNER,

READING SCHOOL DISTRICT TEACHER

As a veteran with over 20 years of experience in education, I was tired of the daily battle to engage my students' 21st century minds with classrooms set up for 19th century educational practices. TEpL offered me the opportunity to break down the classroom walls and bring a true renaissance to my teaching. I feel as if I am an integral part of the much-needed transformation to modernize our educational system, and my students are the primary beneficiaries.

MOLLY SHERMAN,

5-12 GRADE GIFTED SUPPORT TEACHER

Total Experience Learning is an incredible methodology. The ease of implementing the techniques, strategies, and thought processes into my classroom is refreshing. This methodology works in any classroom with any student's ability — everyone can uncover meaning through TEpL strategies.

MARK SEWELL,

10-12 GRADE GIFTED EDUCATOR



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