

ACADEMIC YEAR 2021-2022

ANNUAL REPORT



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Playful
Learning
Lab



UNIVERSITY OF
St. Thomas



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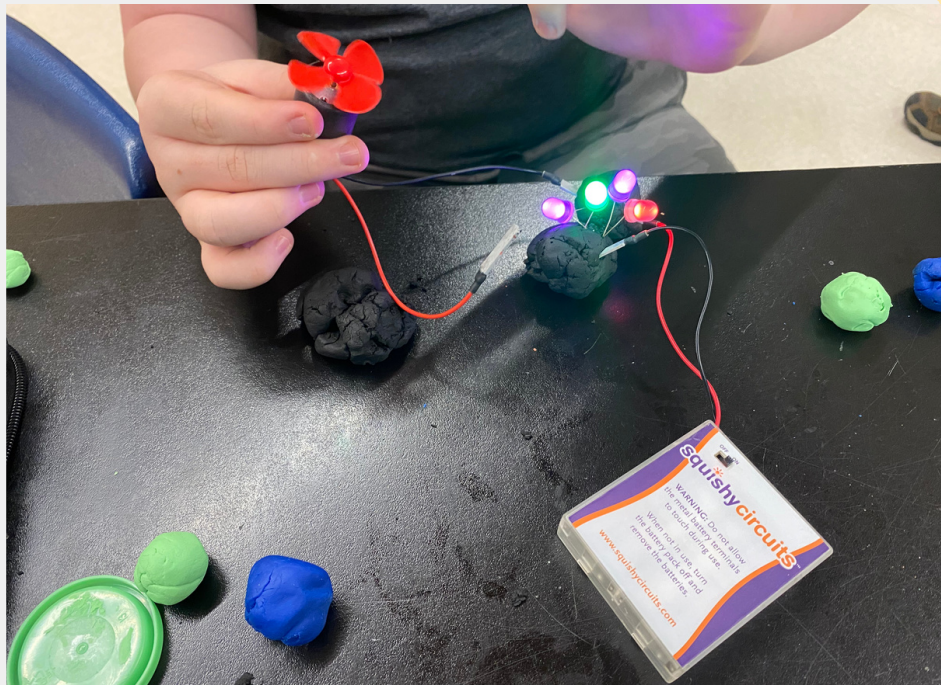
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I. INTRODUCTION



A MESSAGE FROM DR. ANNMARIE THOMAS, PLAYFUL LEARNING LAB FOUNDER AND DIRECTOR

The 2021-2022 Academic Year was one in which the Playful Learning Lab focused on our partnerships and people. After pausing in-person weekly group meetings in March 2020 (and moving them to Zoom), we restarted lunch meetings in the spring of 2022 and were delighted to be back together once a week. We also resumed our in-person presence at the Minnesota Children's Museum and Metro Deaf School, and PLL staff and students are back traveling to conferences and collaboration meetings. Learning how to do this sort of travel and work safely amidst the COVID pandemic has required the team to focus on our care for each other and to embrace flexibility! The Playful Learning Lab team has grown to involve more students and more faculty, who all bring their own unique skills and backgrounds to our collaborative endeavors. I am incredibly proud of this team and cannot wait to see what we do together in the years to come!

AnnMarie Thomas (aphomas@stthomas.edu)



A MESSAGE FROM MAKAYLA QUINN, PLAYFUL LEARNING LAB OPERATIONS MANAGER



For the Playful Learning Lab, as for the rest of the world, last year marked a need for flexibility, compassion, and, of course, play. This year amid uncertainty with the return to the classroom, we have continued to work on creating activities and experiences that are accessible to the broader community. We've partnered with Metro Deaf School, the Minnesota Children's Museum, and other local schools and educational programs to continue facilitating the need of play for all our neighbors big and small. We invite you to continue reading about the Lab and our work and hope to inspire on the multitude of ways you can focus play in your life and the lives of others.

Makayla Quinn



WHO ARE WE?

Established in 2009 at the University of St. Thomas, the Playful Learning Lab (PLL) is an interdisciplinary research group that creates engaging, hands-on educational experiences with an emphasis on integrating play into learning. We focus on science, technology, engineering, art, and math (STEAM) concepts and collaborate with a wide network of schools, teachers, professional organizations, community organizations, and our Lab alumni.



The PLL is vastly interdisciplinary--it is made up of 28 undergraduate students from 22 majors across 16 departments and 4 schools within the university. The students in the Lab are transformed into education-minded leaders. Because of their autonomy, student Lab members gain hands-on experience designing and creating resources used globally, working with community and professional partners, and actively responding to needs in the community. They regularly publish and present scholarly papers on Lab projects, and Lab alumni have gone on to success in many fields including graduate studies and entrepreneurship.



The PLL's work revolves around our 3 Lab rules: be kind, clean up your messes, and play well with others. We live out these rules through our relationships with Lab alumni and community members, through our carbon offset program for Lab emissions, and through the mentality of respect and integrity we hold as we pursue these projects.

FACULTY



Dr. AnnMarie Thomas



Dr. Deb Besser



Dr. Kathlene Campbell



Dr. Jeff Jalkio



John Keston



Dr. Doug Orzolek



Dr. Eleni Roulis

STUDENTS



Rahaf Bahajry



Abby Bensen



Taylor Casey



Caitlin Cretton



Bjorn Eggen



Ruby Ho



Clare Howard



Mellissa Ingabire



Maria Johnson



Becca Leininger



Julia Lindell



Carli Lund



Zane Lundsgaard



Emma Monson



Vanesa Montes de Oca Correa



Tyler Muchow



Annalisa Petrangelo



Makayla Quinn



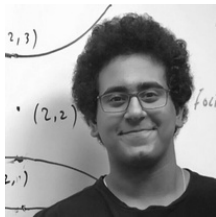
Patrick Roche



Elise Rodich



Joel Rodich



Khaled Shouman



Maggie Stout



Tom Sucher



Christina Yang



Bridget Zenk

not pictured:

Charlie Ninow
Paul Ruetten

MAJORS

Mechanical Engineering
Electrical Engineering
Operations and Supply Chain Management
Computer Science
Accounting
Data Analytics
Entrepreneurship

English
Music
Spanish
German
Physics
Statistics
Psychology

Elementary Education
K-12 Instrument Music Education
Vocal Music Education
5-12 Life and General Science Education
5-8 Science Education
STEM Education
Catholic Studies
Communication and Journalism

II. LAB PROJECTS



THE COLORS WE SHARE

WITH APERTURE FOUNDATION

In collaboration with artist Angélica Dass (born in Brazil and based in Spain), the PLL created a video and lesson plan curriculum to accompany her new book, *The Colors We Share*.

Based on her award-winning photography project, *Humanae*, this book uses photography to prompt reflection on skin color, race, stereotypes, and diversity, showing that we are much more alike than we are different.



In January 2022, Angélica Dass came to the University of St. Thomas's create[space] to film videos to accompany the lesson plan curriculum.

DEAF EDUCATION

We partnered with a middle-school science classroom at MDS to develop and teach an engineering elective for the students to complete during their school year. Using Squishy Circuits, Paper Circuits, Scratch, and Makey Makey, the middle schoolers have been learning about what engineering is, how circuits work, how to do basic computer coding, and how to problem-solve. In Spring 2022, our PLL team went to MDS 4 days a week to teach the lessons, connect with students, and foster a creative and fun learning environment.

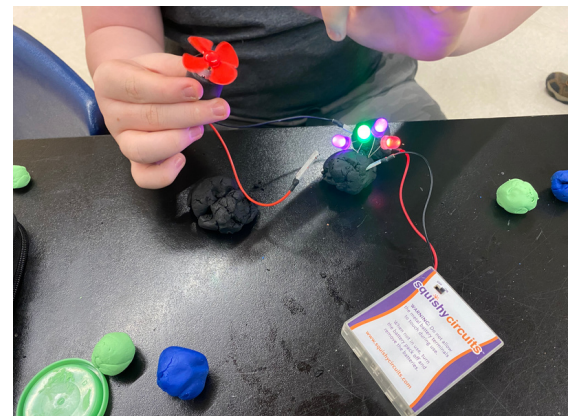
We also collected data through pre- and post-tests to track students' progress and analyze the effectiveness of the curriculum on the students' comprehension.

RECEIVED GRANT

\$110,000 Computer Science Education Research grant from Google for work next academic year on "Expanding Access to Computer Science Education for Deaf and DeafBlind Students."

PUBLISHED PAPER

Monson, E., Schumacher K., and Thomas, AM. (2021) The PLAYground: An Online Summer Camp for Deaf and Hard of Hearing Children. *Journal of Science Education for Students with Disabilities*, 24(1). doi: 10.144448/jsesd.13.0008





MINNESOTA CHILDREN'S MUSEUM

We researched the adult experience at the Minnesota Children's Museum (MCM). We conducted 100+ observations on adult behavior, developed "microdelight" prototypes, and observed guests' reactions and interactions. Through social media, we also researched adult experiences at organizations similar to MCM. Makayla Quinn and AnnMarie Thomas from PLL, along with Jess Turgeon and Michelle Blodgett from MCM, presented research findings at the InterActivity 2022 conference.

PLAY LOUNGE

Play Lounge is an exhibit at the Minnesota Children's Museum that helps adults and guardians get into the spirit of play. PLL graphic designer Tyler Muchow worked with the museum's in-house designers to dream up and create the exhibit.

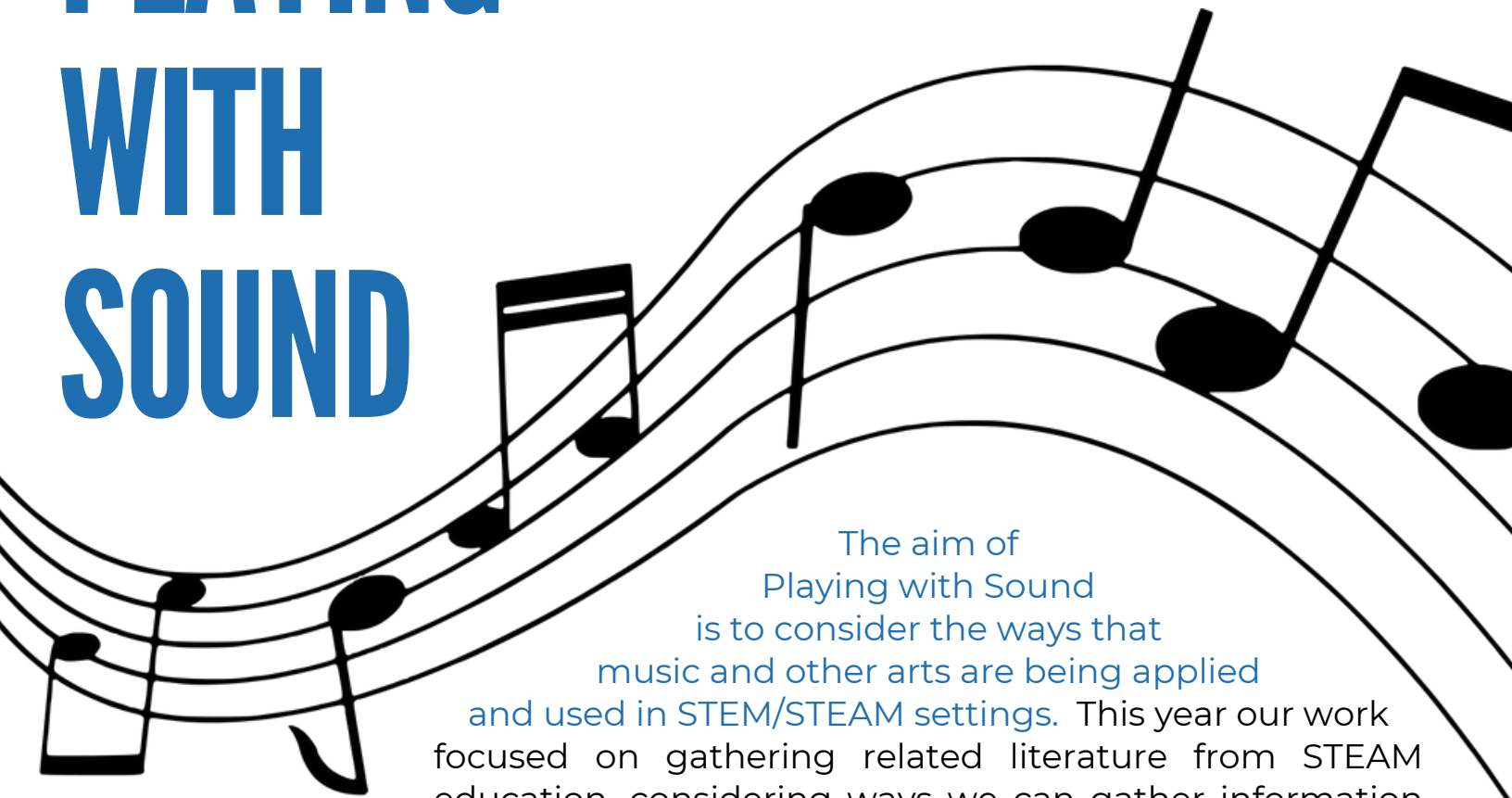


TINKER KITS

The PLL helped pack Tinker Kits at the museum in January 2022. Tinker Kits are boxes of materials for kids--loose parts, colorful pieces, and no directions or suggestions. Just open-ended play!



PLAYING WITH SOUND



The aim of Playing with Sound is to consider the ways that music and other arts are being applied and used in STEM/STEAM settings. This year our work focused on gathering related literature from STEAM education, considering ways we can gather information from STEAM teachers across the country, and brainstorming future projects.

MAKER MUSIC FESTIVAL

We exhibited the "Art Together Now" music project, which received a "Maker Music Festival Award of Merit."

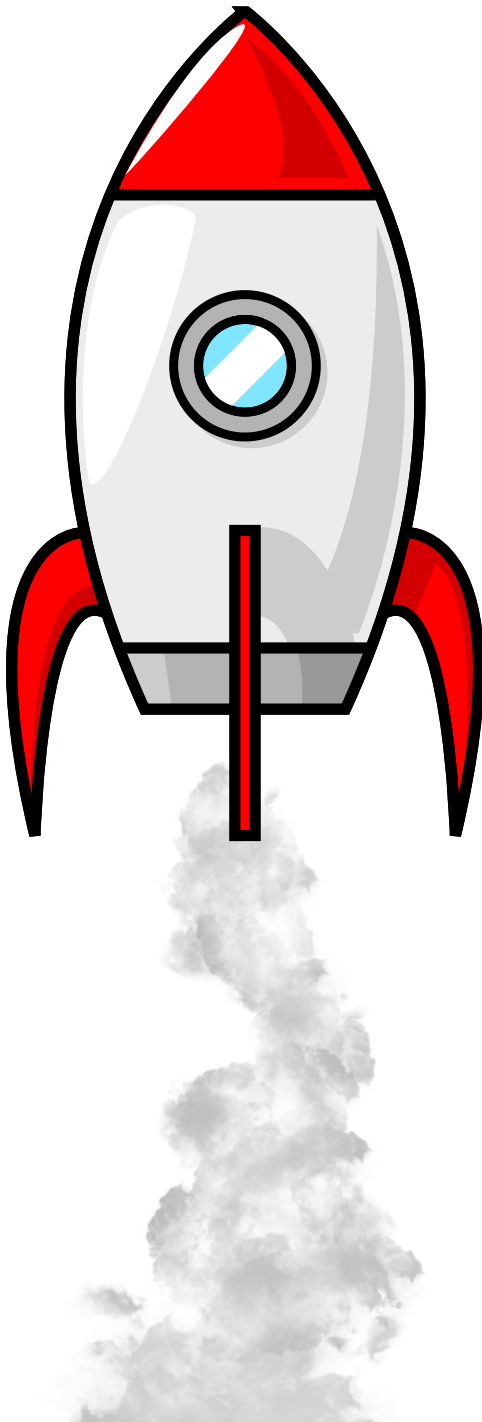


PLL and friends presented at the Maker Music Festival, leading "A Music Educator's Tour of the MMF."



This year, we announced that the PLL will be partnering with Maker Music Festival to create a global Maker Music Educator community around the festival.

POSTCARDS TO SPACE



In partnership with Blue Origin, we sent 2667 postcards that were used in the “[Art Together Now-Praxinoscope](#)” music video to space!

Representing contributions from numerous schools, the cards rode along on New Shepard’s rocket. The postcards were returned to the schools that colored them. One school even held a hallway exhibition of their space-flown artwork.



EVENTS

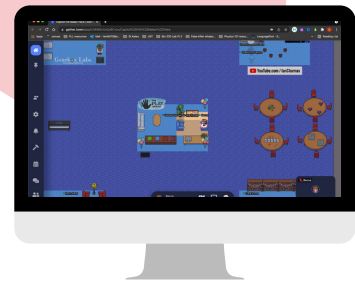


BAKKEN MUSEUM

On March 26th, 2022, we taught Squishy Circuits at the Bakken Museum's Women in Science event.

CAPITOL HILL MAKER FAIRE

We attended the Capitol Hill Maker Faire with a virtual booth on the PLAYground camp developed during COVID-19 for Metro Deaf School in St. Paul.



We held a workshop with the University of St. Thomas's international student agents to show them what we do at the PLL. We did the LEGO six bricks challenge and played with Squishy Circuits.

OFFICE OF INTERNATIONAL STUDENTS AND SCHOLARS MEETING

CRETIN-DERHAM HALL

We spent time with the high schoolers at Cretin-Derham Hall for the first Rob Stupka STEAM week. Students had the opportunity to play with Squishy Circuits and race cars made of pipe cleaners in their brand new maker space.



1ST GRADE RESIDENCY

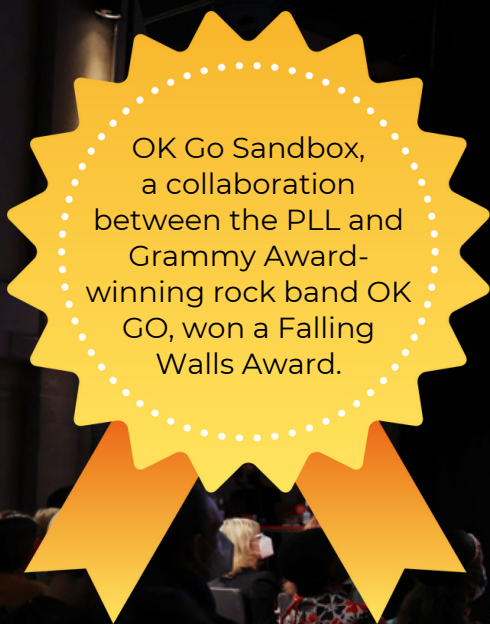
The Playful Learning Lab was in residency for two days at Parkview elementary school (where PLL alumna Ali Haugh is the STEAM specialist). Six classes of first graders spent 90 minutes exploring engineering through projects such as Squishy Circuits and LEGO six bricks challenges.



III. LOGISTICS



AWARDS



OK Go Sandbox, a collaboration between the PLL and Grammy Award-winning rock band OK GO, won a Falling Walls Award.



Liesa Johannssen / photothek.de



The "Art Together Now" music project received a Maker Music Festival Award of Merit.

CONFERENCES & PRESENTATIONS

The "Art Together Now - Space,"
video played on the mainstage at TED

"A Music Educator's Tour of Maker Music Festival,"
Maker Music Festival

"Re-Imagining the Adult Experience at a Children's Museum (Part 1 and 2),"
InterActivity 2022

"NIME Keynote: Plays Well with Others," New Interfaces in Musical Expression (NIME)
2021, Shanghai, China (June 16, 2021)

"Keynote: A Playful 'Space' for STEAM," Thomas Maker Summit, Brasil, remote presentation
(2021)

"Breaking the Walls of STEAM Education with Music Videos," Falling Walls Engage,
Berlin, Germany (2021)

"Finding the Joy and Surprises in Our Course Content," CATES/ASEE (July 26, 2021)

"Unusual Collaborations in Engineering Education," KEEN Community Talk, online (2021)

"Playing, Learning and Rube Goldberg," Rimon, Minnesota (2021)

"Playing with Engineering: Adding Elements of Playful Learning to our Teaching
and Research," KEEN National Conference 2022, online
(February 5, 2022)

Invited Keynote: "Playing with STEAM," MEGT
Midwest Conference, Brainerd, Minnesota
(January 31, 2022)

Mounds Park Academy, presentation to
Upper School Makerspace class
(February 17, 2022)

Workshop: "Playing
with Engineering:
Adding Elements of Playful
Learning to Our Teaching and
Research," KEEN National
Conference 2022

Workshop: "Playing in the
OK Go Sandbox," MEGT
Midwest Conference,
Brainerd, Minnesota
(January 31, 2022)



"Breaking Ground on a New Era for Engineering"



In the News: Twin Cities PBS Receives a Gracie Award for SciGirls 'Code Concert'



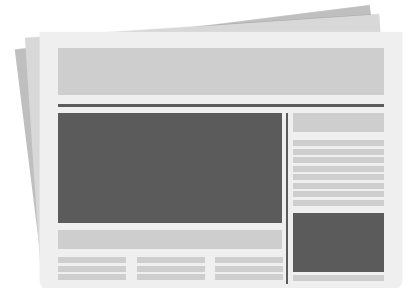
In the News: AnnMarie Thomas on Constructive Feedback



In the News: AnnMarie Thomas on the Benefits of Video Games



OK Go Sandbox Wins Science Award in Berlin



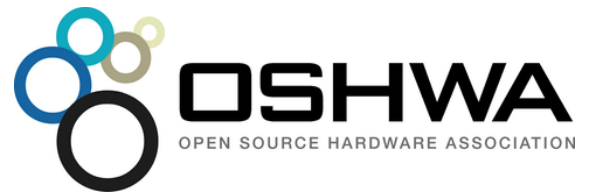
MENTIONS IN THE NEWS



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