

Welcome

Amy Rasmussen

Executive Director

Chicago Arts Partnerships in Education

Overview of STEAM Ahead project and introductions

Mark Diaz

Associate Director of Education

In-school Programs and Exhibitions

Chicago Arts Partnerships in Education

Designing Professional Development

Dr. Jenna Sanei, Jerry Stefl, Patricia Whitehouse

Arts and STEM Education Consultants

Lesson Plans and Reflections on Student Engagement

Molly Cranch, Jordan Knecht, Kim Moore, David Sprecher

CAPE Teaching Artists

What can we learn from research? What did we learn from research?

Louanne Smolin, Ed.D

Education Researcher

Website launch

Patricia Whitehouse, Jordan Knecht

Q&A and discussion

CAPE's STEAM Ahead project infuses arts learning with STEM practices, allowing students to apply, connect, and interweave science, technology, engineering, and math concepts, through the arts.

Research findings from the project that took place from 2018 to 2022 are presented by education researcher Louanne Smolin, Ed.D, who has investigated the ways in which visual arts and teachers' pedagogy are improved through professional development and curriculum implementation, and how these impact K-5th grade student learning and outcomes.

Dr. Smolin is joined by a panel of CAPE teaching artists Molly Cranch, Jordan Knecht, Kim Moore, and David Sprecher, and arts and STEM education consultants Jenna Sanei, Jerry Stefl, and Patricia Whitehouse. This forum will present CAPE's teaching model in which teacher and teaching artists collaborate to design and deliver innovative and effective standards-based teaching through art inquiry.



<https://capesteamahead.cargo.site/>

The STEAM Ahead website, created to provide a useful tool for educators, offers unit outlines, agendas for professional developments, activity archives, and curated resources -- free to use at any school or district.

STEAM Ahead was developed for and in collaboration with Park Forest-Chicago Heights School District 163 teachers and teaching artists. The STEAM Ahead project is supported by an Assistance to Arts Education Development and Dissemination Grant funded by the US Department of Education.



chicago arts
partnerships
in education

presents

STEAM Ahead:

**Launching STEM + Arts curricula
for any school or district!**

Wednesday, September 27, 2023

Chicago Arts Partnerships in Education
1010 W 35th Street, Suite 697, Chicago, IL



Founded in 1992, Chicago Arts Partnerships in Education works to empower young people and community members through arts integration, to fully realize their academic, creative and personal potential.

Phone 312-870-6140, Email info@capechicago.org
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www.capechicago.org facebook.com/CAPE.org @CAPEchicago

Louanne Smolin, Ed.D

Education Researcher

Dr. Louanne Smolin is an urban educator with diverse experiences in arts research and teacher education. Her areas of expertise include curriculum reform through multimedia and arts integration. She has extensive knowledge in curriculum reform and serves as a researcher on large-scale program evaluations. Dr. Smolin has published journal articles and book chapters related to collaborative program evaluation, multimedia, and teacher professional development, and has also been a recipient of the Best Practice Award for the Innovative Use of Technology, American Association of Colleges for Teacher Education.



Dr. Jenna Sanei

Science Consultant - Associate Professor of Science Education Concordia University Chicago

Dr. Jenna Sanei served as the science consultant on this CAPE project. She is an Associate Professor of science education at Concordia University Chicago. Jenna has over 15 years of experience in science teacher education and high school science teaching.



Left: Students at Mohawk Primary creating an animation about space exploration.

Below: Teaching Artist Kim Moore discussing with Blackhawk students about different ways of representing the solar system through visual arts.



Jerry Stefl

Art Consultant - Faculty Emeritus School of the Art Institute of Chicago & IAEA Distinguished Award Winner

Jerry divided his teaching time between Carl Sandburg High School in Orland Park, Illinois and The School of the Art Institute of Chicago for 33 years and now has Emeritus status from The School of the Art Institute of Chicago in the Department of Art Education. He is the Past President of the Illinois Art Education Association, a past member of the AP Studio Art Development Committee, Western Region Secondary Chair for the National Art Education Association, lead consultant of the AP Studio Art Vertical Guide (2003) and developed the Pre-AP Vertical Team in Studio Art Professional Development Workshop (2003 and 2013). He has also been a reader, table leader and exam leader for AP Studio Art and the chair of the Visual Art team reviewing teacher training curricula for the Illinois State Board of Education. Jerry has received The Marie Walsh Sharpe Artist/Educator Fellowship, National Secondary Art Educator of the Year, Illinois Art Educator of the Year, The International Kohl Award for Exemplary Teaching, Teacher of the Year/District #230, and Teacher of the Year for Carl Sandburg High School and is a Distinguished Member of IAEA. Jerry received the Chairman's Award for outstanding achievement as adjunct faculty at The Art Institute of Chicago in 2014 and received the Distinguished Service to the Profession of Art Education Award from the National Art Education Association in 2015. In November of 2021 Jerry was awarded and inducted into the Illinoisan Hall of Fame for his continuing commitment and history towards education. He has conducted beginning, experienced and pre-AP workshops internationally and is the past Content Advisor for Studio Art at AP Central. Jerry is also on the Executive Board and Chair of the Education Committee at Intuit: The Center for Intuitive and Outsider Art in Chicago.



Patricia Whitehouse

Educational Consultant - Former Chicago Public Schools K-6 Engineering Teacher

Patty Whitehouse has been an educator for 34 years, working as a classroom teacher, science coach, and administrator. She retired from teaching in 2022 after spending the last 10 years as the Engineering Lab instructor at Goudy Technology Academy in Chicago, where the lab was the site of practicum experience for Loyola University undergraduate students. She holds Masters Degrees in both Education and Administration. Patty taught Science Methods at Northwestern University, and currently works with Northwestern University's Science in Society to develop and implement practicum-based Science PD for Chicago Public School teachers. Throughout her teaching career, Patty has provided PD for various science programs and has presented at art, science, and reading conferences. Patty spent several years as Managing Editor of Rigby Education. Her writing credits include scientific articles, science curriculum content, and 117 books that introduce science and engineering to elementary school readers.



Molly Cranch

CAPE Teaching Artist

Molly Cranch is an artist, children's picture book author-illustrator, and arts educator living in Chicago, Illinois. She received a BFA in painting from Washington University in St. Louis and a K-12 certificate in art education from The School of the Art Institute of Chicago. In her capacity as a fine artist, she has exhibited her nature-inspired paintings in galleries all across the United States. Additionally, she has worked as an art teacher and a teaching artist, bringing art to youth in public and private schools, art centers and museums for over 20 years. Her teaching practice is focused on arts integration, with a special interest in STEAM and SEL. Currently Molly is pursuing an MA in illustration and is excited for the release of her first picture book (a STEM-focused book) titled Hide-and-Seek by Clavis Publications in 2024.



Jordan Knecht

CAPE Teaching Artist

Jordan Knecht is a Chicago-based artist, educator, musician, DJ, and systems designer, surfing the wave of unknowing. Jordan's work is rooted in play, a guiding force which informs all projects and collaborations. His work has been presented at the Denver Art Museum, SFMOMA Open Space, MCA Chicago, MCA Denver, Black Cube Nomadic Museum, and Laumeier Sculpture Park.



Kim Moore

CAPE Teaching Artist

Kim Houston-Moore has spent twenty years as an educator with Chicago Public Schools, and the last fifteen years teaching her first love—visual art. With a B.F.A. from the University of Illinois, and an M.A. from Concordia University, Kim has worked with CAPE since 2007, first as an art teacher and now as a teaching artist. During that time, she has worked on many projects and taught hundreds of students from pre-kindergarten to eighth grade.



David Sprecher

CAPE Teaching Artist

David Sprecher is an artist and educator based in Chicago. He received his MFA from the Art Theory and Practice program at Northwestern University and a BFA in printmaking from The Maryland Institute College of Art. He teaches sculpture at The Chicago Academy for the Arts, The School of the Art Institute of Chicago Low Residency MFA program, and integrates art education into public primary schools through The Chicago Arts Partnership in Education. He's published writing in The Brooklyn Rail, Columbia Journal, and Chicago Artist Writers and has exhibited work internationally.



Executive Summary: STEAM Ahead

Louanne Smolin, Ed.D, Principal Investigator

June 28th 2023

Overview

The STEAM Ahead project, funded by the U.S. Department of Education’s Assistance for Arts Education Development and Dissemination (AAEDD) Grant Program, was designed to benefit students in kindergarten through 5th grade in Park Forest-Chicago Heights District 163 (D163) public elementary schools. Specifically, STEAM Ahead aimed to increase students’ access to standards-based arts education and arts integrated curriculum into STEM standards-based content areas as part of their well-rounded education. By adapting and expanding on CAPE’s researched-based, internationally recognized arts integration methods and systems, D163 provided more individualized attention to elementary learners, expanded arts learning for struggling students and aimed to close the achievement gap. Student outcomes included their increased academic performance in areas of reading and math as well as increased knowledge and skills in creating, performing, and responding to the arts.

STEAM Ahead classrooms partnered with CAPE teaching artists experienced in STEM integration, originally with 2 art teachers and three STEAM teachers (Core STEAM Ahead Teachers) from the five participating schools to co-design and implement STEAM integrated curricula. In addition, the teaching artists extended the STEAM curriculum from the art/STEAM classrooms to sessions co-taught with classroom teachers in K-5 (Classroom Teachers). Therefore, participating kindergarten through 5th grade students benefitted from inquiry-based, co-taught STEAM projects in the art rooms, STEAM rooms, and their classrooms.

Participants:

The research participants were 2 school-based arts teachers, 3 school-based STEM teachers, 20 classroom teachers from grades 3-5 classrooms, 25 teachers from k-2 classrooms and their students (180 students) . Control schools included 2 school-based arts teachers, 3 school-based STEM teachers, 20 classroom 3-5 classroom teachers and their students who are NOT enrolled in the STEAM Ahead program (180 students).

Activities:

The STEAM Ahead program activities included:

- Professional Development Workshops, including participation of CAPE teaching artists as collaborators with project participants. These full and half day workshops occurred on a monthly basis.
- STEAM Ahead teachers’ development of interdisciplinary STEAM integrated curriculum. STEAM and Arts teachers developed one STEAM Ahead unit per year that was implemented across their respective classes. 3 to 15 lesson grade level classroom extensions were also developed and implemented each year.
- STEAM teachers and grade level classroom teachers shared their curriculum units during STEAM Ahead professional development sessions.

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Research Questions:

The STEAM Ahead program was designed increase students’ access to standards-based arts education and arts integrated curriculum into STEM standards-based content areas as part of their well-rounded education. The purpose of STEAM Ahead research/ program evaluation was to assess the impact of STEAM Ahead Professional and Curriculum Development on:

- participating teacher’s learning and instructional practices
- participating students’ engagement and arts growth
- participating students’ academic growth

The guiding evaluation questions for the STEAM Ahead Program were:

- How do professional development and curriculum implementation partnerships increase visual arts and K-5 teachers STEAM and pedagogical content knowledge in ways that improve their instructional practices?
- How do teachers’ instructional practices increase student learning and outcomes?

Data Sources: The STEAM Ahead research design was quasi-experimental. Data collection occurred in ongoing manner through project activities and included measures such as teacher interviews and surveys, classroom observations, analysis of artifacts produced during STEAM Ahead project activities, and standardized student achievement assessment scores in Reading and Math.

Findings

Summary

STEAM Ahead provided school-based STEAM/Arts and classroom teachers with professional development. Participants reported understanding the objectives of these sessions and were confident that they could apply what they were learning to their instructional practices. They became increasingly more confident developing STEAM lessons to be implemented in their classrooms. Participants discussed strategies learned during professional development that they could “blend” into their classrooms, including strategies for integrating arts and STEM content, as well as practices for assessing student learning and documenting classroom activities. Barriers between professional development context, less frequently discussed, included lack of clarity about PD activities.

In terms of STEAM Ahead curriculum development, participating teachers increasingly incorporated inquiry questions within their curriculum and gained more experience incorporating interdisciplinary vocabulary within their lessons. They encouraged students to raise questions and problem solve. Participating teachers more consistently used student artifacts to analyze their students’ learning. Finally, teachers offered greater flexibility within learning activities by setting parameters and created more opportunities for student choice by diversifying the types of projects students could engage in.

Students in STEAM Ahead were able to define STEAM as an interdisciplinary way to learn. They became increasingly more able to discuss how scientists use scientific processes such as design in order to create products, and how research is a part of both scientific and artistic processes.

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