

# STEM at the Crossroads: Professional Development through Arts-Integrated Curriculum Design

Kerry Dixon, Ph.D., College of Education and Human Ecology, dixon.480@osu.edu



THE OHIO STATE UNIVERSITY

COLLEGE OF EDUCATION  
AND HUMAN ECOLOGY

## OVERVIEW

This 6-year study was part of Project ASPIRE (Apprenticeships Supported by Partnerships for Innovation and Reform in Education), funded by the U.S. Department of Education (Award Number U336S090049; Principle Investigator Dr. Sandra Stroot). Approximately 40 experienced Columbus City Schools teachers collaborated with OSU and a community arts organization to co-design, co-teach, and co-assess (with each other and arts specialists) arts-integrated units of study. The participants were referred to as the “Innovative Curriculum Design Team” or the “ICDT.”

The overarching goal of the study was to determine how rigorous integration of visual art with hard-to-staff content areas (science, mathematics, and world languages) could not only engage middle and high school students but also lead to measurable content mastery. The recommendations of the teacher collaborators have informed how future career urban educators are prepared through an innovative apprenticeship model.



## OUTCOMES

A noteworthy advancement in teachers’ understandings of interdisciplinarity and arts integration occurred in those who had participated for at least three years. In addition, the three-year threshold was identified as the point at which STEM teachers were able to implement substantive arts-integrated units of study with much less support from arts educators. However, they still relied upon their connection to the arts educators, leveraging their relationships as a “lifeline” for planning, classroom implementation, and assessment support. In addition, long-term ICDT members indicated that that initially a stipend was important to them, but over time, their experiences in the group created an enduring commitment that exceeded any desire for monetary compensation. These participants evidenced new understandings of their own subject areas as well as art, and they reported transformation of classroom climate, culture, and student knowledge and skills development.



## PROGRAM DETAILS

- 40 teachers
- Varying lengths of time and depth of engagement.
- Year 1 = 4 teachers
- Year 2 = 10 teachers
- Year 3 = 11 teachers
- Years 4-5 = 40 teachers
- Year 6 = 12 teachers
- Stipends and release time
- Immersive experiences in art/design studios
- Weekly 2-hour meetings, art materials and resources, and ongoing planning and classroom-based support from arts educators and interdisciplinary specialists.

**OSU COLLABORATORS**  
College of Education and  
Human Ecology

**COMMUNITY PARTNERS**  
Columbus City Schools  
Beta by Design  
Ohio Department of Education