Digital Disruptors:
Creating a Gateway to STEAM for a Broader Audience

Niema Qureshi
Chicago Arts Partnerships in Education, USA

Marilyn E. Baez
Marvin Camras Children's Engineering School, USA

EXECUTIVE SUMMARY

This chapter provides insight into how two educators researched, planned, and co-taught a remote learning arts-integrated project during the pandemic. Student interest in video games generated an inquiry-based collaboration centered around pixel art and video game narratives. The authors combined digital animation with cross-stitching and language arts to address the multiple ways that students learn. The authors believed that by combining technology and language arts with visual arts, students could take a more project-based approach to their learning, which they hoped would lead to greater student engagement. The authors share their challenges and future opportunities that were made visible during this project.

INTRODUCTION

How can art, technology, and language arts be used as a form of inquiry and how can their integration engage students to think critically in a remote teaching setting? These questions became the central focus for the authors—a Chicago Public School (CPS) middle school language arts teacher and a Chicago-based interdisciplinary artist—as they designed their collaboration during the pandemic. Before the collaboration even began, it was clear to the authors that their biggest challenge would be student engagement, a problem many educators faced during this time. Although this was concerning, having been Chicago Arts Partnerships in Education (CAPE) collaborators for many years, the authors knew that involving the students in the curriculum development process was essential for student engagement. CAPE's teachers and artists collaborate to design inquiry-based arts integrated curriculum, working primarily with

underserved communities, and understand not only how important student engagement is, but that the student's voice must be included throughout the process.

Collaboration is central to CAPE's programs, not just between the teacher and the artist, but among the students, too. A Critical Collaborator is one of the dispositions of a CAPE Artist/Researcher, a set of qualities that CAPE staff introduced in 2015. Scott, CAPE's education director, described this type of learner: "As an Artist/Researcher, she/he conducts investigations through art and collaboration in order to gain new understandings of the world" (Sikkema, 2016, para.10). Sikkema went on to emphasize that all those involved in a CAPE Program, namely teachers, artists, students, and staff, are all Artist/Researchers.

The authors understood that collaboration with the students would be vital during remote teaching. However, there was so much uncertainty. Even simple logistical issues were unclear, such as whether it would be possible to distribute art materials to their students. Again, the authors leaned into their experience of CAPE collaborations and focused on what concepts and ideas would be most meaningful in helping students engage with the required language arts and visual arts standards. CAPE's programs are designed with a big idea and inquiry question that are developed by the coteachers, but are deliberately open-ended, so that they leave room for the student to take the inquiry and project in a direction that is most meaningful to them. Taking inspiration from contemporary artists, who also generate artwork based on concepts and ideas and not just the medium itself, the authors considered what themes would be most meaningful to engage with during these unusual times.

BACKGROUND

Another challenge facing educators teaching remotely, especially those teaching in underserved communities, was low student attendance. Karp (2020) mentioned that in spring 2020, most Chicago public schools did not have students regularly logging in to their virtual classrooms. Students that did not have access to a computer and could not access the Internet were considered "nondigital learners" (p.1).

At the beginning of the pandemic, the education nonprofit organization Kids First Chicago and the Metropolitan Planning Council (2020) released the report called *Digital Equity in Education in the Coronavirus Era*. The report shared that about 1 in 5 children in Chicago under the age of 18 lacked broadband access, and this primarily impacted Black or Latinx communities. Kids First Chicago, whose mission is to ensure that every child in Chicago has access to high-quality education, immediately advocated for action to address the digital divide, highlighting concerns about the widening achievement gap. In June 2020, several months before the authors' collaboration began, a program titled Chicago Connected was launched to address this divide.

The initiative, a partnership between the City of Chicago, CPS, the philanthropic community, and community organizers, was able to raise money to get access to high-speed Internet for more than 64,000 CPS students. Though this would not necessarily solve all the problems associated with remote teaching and learning, this initiative did help address access to the Internet for many of the students that CAPE's programs reach. The authors were relieved that this option was available for their students, but also began to consider how their collaboration was an opportunity to address a broader, systemic problem related to underserved communities and technology: computational fluency (Resnick, 2018a).

Mitchel Resnick, professor of learning research at the MIT Media Lab, writes that children spend a considerable amount of time using technology but often these activities involve interaction with the technology but not creating with it. This connects with what he asserted in discussing the importance of

Related Content

Cost-Sensitive Learning

Victor S. Shengand Charles X. Ling (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 339-345).*

www.irma-international.org/chapter/cost-sensitive-learning/10842

Positive Unlabelled Learning for Document Classification

Xiao-Li Li (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 1552-1557).*

www.irma-international.org/chapter/positive-unlabelled-learning-document-classification/11026

Data Mining with Cubegrades

Amin A. Abdulghani (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 519-525).*

www.irma-international.org/chapter/data-mining-cubegrades/10869

Cluster Analysis for Outlier Detection

Frank Klawonnand Frank Rehm (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 214-218).*

www.irma-international.org/chapter/cluster-analysis-outlier-detection/10823

Context-Sensitive Attribute Evaluation

Marko Robnik-Šikonja (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition (pp. 328-332).*

www.irma-international.org/chapter/context-sensitive-attribute-evaluation/10840