Supporting Teacher Professional Learning and Curriculum Implementation Through Collaborative Curriculum Design

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Supporting Teacher Professional Learning and Curriculum Implementation Through Collaborative Curriculum Design

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ABSTRACT

This poster shares our experience of engaging middle school teachers in a collaborative design of a computer science and digital literacy (CSDL) curriculum through a researcher and practitioner partnership (RPP) among two public universities and three urban school districts in the Northeast USA. The project used the co-design approach to facilitate curriculum development and foster professional learning. In this poster, we introduce the co-design process, the developed curriculum, and teachers' professional learning experiences. Preliminary results indicate that the co-design approach supplemented with one-one-on coaching has not only facilitated the curriculum development but also fostered professional learning and collective capacity building for CS education.

CCS CONCEPTS

• Social and professional topics ~ K-12 Education

KEYWORDS

Co-design; CSDL; Middle School; Professional Learning; RPP

1 INTRODUCTION

The goal of the CS Pathways project is to establish an inclusive and sustainable middle school CSDL curriculum in three urban districts [2], which is based on students developing apps for community and social good. The project's second year has been dedicated to developing curriculum resources that explicitly embed culturally relevant pedagogy [1] and support teachers piloting the curriculum in remote learning settings.

2 BACKGROUND

The project uses collaborative curriculum design as a curriculum development and implementation-furthering strategy [3]. Co-design is a highly facilitated, team-based process in which a group of teachers, researchers, and developers engage in iterative cycles of design, implementation, testing, and re-design to develop curriculum materials [3]. This activity enables professional learning by having teachers enact an active role in the design process.

3 METHODS AND RESULTS

The project hosted 12 co-design meetings with a team of teacher leaders, district leads, and project researchers. We also organized one-on-one coaching with teachers and monthly group meetings with district leads to develop and manage the human, material, and structural resources to support this co-design approach. The main product of this work is the project curriculum with resources housed on the project's Google Classroom site. It is an approximately 18-hour curriculum consisting of five units with two to six modules in each unit. One distinct feature of the curriculum is that the culturally relevant pedagogy is explicitly integrated throughout the units.

We include data from teacher interviews and co-design meeting notes to understand the professional learning experience of teachers who co-designed and piloted the curriculum. Teachers reported overall positive experiences in both the co-design process and curriculum implementation. Integrating the one-on-one coaching with the co-design group activities helped meet both the needs of individual teachers and the collective efforts of the whole RPP team.

4 FUTURE WORK

We are currently working on supporting a new cohort of teachers in professional learning and curriculum adoption. With the leadership of the teacher leaders and the district leads' support, we expect to facilitate more co-design work and build professional learning communities within each district.

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