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Sidewalk Math: An Innovative Approach for Engaging All Children in Mathematical Learning

Martha Barry McKenna

Lesley University, mckenna2@lesley.edu

Siobhan Dennis

Worcester Public Schools, DennisS@worc.k12.ma.us

Maureen Loony

Worcester Public Schools, LooneyM@worc.k12.ma.us

Merideth Ekwall

Holliston Public Schools, ekwallm@holliston.k12.ma.us

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Community of Scholars Day Panel Presentation

Sidewalk Math: An Innovative Approach for Engaging All Children in Mathematical Learning
Panelists: Siobhan Dennis (principal), Merideth Ekwall (P-5 math & science coordinator),
Maureen Looney (kindergarten teacher) and Martha McKenna (researcher)

Panel Description

Lesley University's Creativity Commons partnered with 20 kindergarten teachers and their 6 principals to form the Early Childhood Math Collaborative Inquiry Project in Fall 2017 to study the impact of the use of Sidewalk Math carpet patterns on children's development of numbersense. In this session we will explore this innovative approach for mathematics education; engage in a discussion on the strategies, activities and lessons created by kindergarten teachers; and examine findings on the impact on the development of children's numbersense.

Abstract

In kindergarten classrooms in six schools across Massachusetts young children are developing numbersense by walking, hopping, jumping, and skipping through colorful mathematical designs on carpets and sidewalks. The patterns and accompanying counting activities provide teachers with tools to engage young children in learning mathematics through movement and observation activities on colorful floor designs.

Lesley University's Creativity Commons partnered with 20 kindergarten teachers and their 6 principals to form the Early Childhood Math Collaborative Inquiry Project in Fall 2017 to study the impact of the use of Sidewalk Math carpet patterns on children's development of numbersense. Teachers from 3 urban schools with highly diverse populations and 3 suburban schools, including a private Montessori school, participated in this project. The teachers documented students' engagement with the patterns and contributed strategies, lessons and activities used in their classrooms on a shared wiki. The principals tracked the changes in the students' mathematics performance from assessment data collected at the beginning and end of the semester.

Participants will learn about this innovative approach for mathematics education; engage in a discussion on the strategies, activities and lessons created by kindergarten teachers; explore the use of educational resources designed to accompany the use of the patterns; and examine findings on the impact of engagement with these mathematical patterns on the development of children's numbersense. Of particular interest are the findings on the development of numbersense in children with learning or behavioral challenges.

This panel presentation addresses the following COS Day priorities:

- Innovative pedagogies/cross-cultural approaches to teaching, learning and leadership
- Innovative programs for marginalized and underserved populations

