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### Higher Order Teaching: University of Massachusetts Boston, Institute for Community Inclusion and Lowell Public Schools

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# Higher Order Teaching

University of Massachusetts Boston, Institute for Community Inclusion and Lowell Public Schools

Lisa Van Thiel, Senior Early Childhood Specialist and Project Director

## Summary/Abstract

The Higher Order Teaching (HOT) partnership builds upon and extends the Lowell Public School's Birth to Three Alignment grant.

One of five pilot sites across the Commonwealth, the Lowell Alignment grant brings together a 15 member Leadership Alignment Team comprised of two, Level 3 & Level 4 public school principals, the District's Early Childhood Department, and the City's 7 center based programs, 5 family child care systems, and Head Start to build a common language around alignment, the common core, standards-based curriculum, and to set alignment goals and benchmarks.

HOT addresses a widespread need throughout the City to aggressively address the notably low skills in mathematics that children entering and attending the public school's.

## Goals and Objectives

1. Increase early educator's content knowledge in mathematics.
2. Increase use of Teaching Strategies Gold (TSG) to standardize child assessments and inform instruction across public and private early education settings.
3. Engage preschool to 2nd grade educators in alignment of mathematics curriculum to the Massachusetts Curriculum Frameworks in Mathematics (MCFM) and (TSG).
4. Increase educators' understanding of learning trajectories and research based teaching strategies in mathematics.
5. Increase teacher competence in using child assessment data to design mathematical experiences and instruction.

## Results/Impacts

### In the first year of the project the team has:

1. Collected base line data on teacher knowledge and belief about mathematics.
2. Collected base line data on using the Classroom Assessment Scoring System (CLASS) on teacher/child interaction in the classroom.
3. Formed a curriculum committee focused on alignment of preschool curriculum in mathematics to that developed for K-12.
4. Offer a CEU/PDP course on Mathematic focused on using various instructional strategies to build higher order thinking skills to 16 teachers and paraprofessionals.
5. Offered a two day training on Teaching Strategies Gold to community program and provided them materials and account to monitor students progress over 20 early educator participated.

## Approaches and Methods

Engage early educators in professional development to strengthen knowledge in mathematics, understanding of how mathematic knowledge develops and to provide various strategies for implementation in classroom practice through a range of professional development opportunities including:

- **participation in workshop series**
- **in class coaching**
- **participation in the development of a mathematics curriculum for preschool children aligned to the district's K-12 curriculum.**

## Next Steps

- Use data to inform second year professional development activities
- Continue to engage community provider in using Teaching Strategies and to utilize district mathematic curriculum
- Evaluate what professional development activities impact the quality & quantity of mathematics instruction in preschool classrooms
- develop a preschool curriculum guide aligned to the district k-12 curriculum and (TSG) that support teachers in understanding mathematic learning

### In order to meet goal of:

- 80% of teachers participating in professional development will improve content knowledge in mathematics as determined by pre-and post-teacher knowledge and belief assessment .
- 80% of the participating teacher will increase the frequency and quality of interactions to support higher order thinking skills and amount of time given to implementation of mathematics curriculum.

## References and Resources

### First Steps in Mathematics

<http://www.det.wa.edu.au>

GOLD, T. S. (2010). Teaching Strategies GOLD®.

## Partnership Information

**UMass Boston Institute for Community Inclusion** - Lisa Van Thiel

**Lowell Public Schools** - Pat Murphy, Terry O'Neil, Magaly Ronan - Early Childhood and Math Coordinator, Linda Warren - Early Childhood Associate

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