

Early Childhood math lessons: Preliminary analysis from Montessori Records Xpress (MRX)



Angela K. Murray, PhD, AMS Research Coordinator, University of Kansas

Research Lesson Update Counts for AMS "Essential" Materials

Background Montessori Records Xpress ... Online record keeping system for teachers. Specifically designed for Montessori educators. Allows teachers to monitor individual student progress on lessons. Over 400 schools and 1,400 classrooms.

Research Initiative

- MRX scope offers researchers valuable information.
- AMS and MRX collaboration to make data available for analysis.
- Pilot program with Early Childhood classrooms in 2010-2011.
- 29 schools, 34 classrooms 666 students participating.
- Elementary level is under development to pilot in 2011-2012.

Goals of Initiative

Understand complexity of Montessori education implementation:

- · Prevalence of lessons and work
- Relationship to school, classroom, teacher and student
- characteristics
- · Growth over time
- Other goals as identified by researchers
- Future possibilities for linking outcomes information

Limitation

Lack of consistency across classrooms "Static" Addition Example

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Math	Static Addition
Math	Bankers Game - Static Addition
Math	Static addition with golden beads
Math	Stamp game Static addition
Mathematics	Static Addition
Mathematics	Bankers Game - Static Addition
Mathematics	Static Addition with the golden beads 2 - 3digits
Mathematics	Static Addition with the golden beads 4 digits
Mathematics	Stamp Game Static Addition
Mathematics	Bank Game - Static Addition
Mathematics	Golden Beads - Static Addition
Mathematics	Static Addition with the golden beads
Mathematics	Static Addition
Mathematics	Gold Bead Static Addition
Mathematics	Stamp Game - Static Addition
Mathematics	Stamp Game: Static Addition
Mathematics -	
Preschool	Static Addition

Lists using common terminology were developed by experienced Montessori EC teacher educators and reviewed by an expert panel.

Decimal System	Golden Beads and Decimal	Static	
Operations	System Number Cards	Addition	
		Static	
Leading to Abstraction	Stamp Game	Addition	

	Son Opuate Co
	Count
Sandpaper Numerals	591
Spindle Boxes	389
Hundred Board	338
Number Rods and Numerals	316
Memory Game	296
Golden Bead Material	257
Ten Boards	160
Bead Cabinet & Arrows	154
Teen Boards	127
Fraction Insets*	84
Stamp Game	55
Cards and Counters	17
Dot Game*	<10
Fraction Skittles*	<10
Bead Frame	0

Addition	Count
Addition Strip Board	176
Positive Snake Game	113
Short Bead Stair	74
Addition Charts	46
Subtraction	
Subtraction Strip Board	12
Subtraction Snake Game	<10
Subtraction Charts	0
Multiplication	
Short Bead Stair Exercises	74
Multiplication Board	34
Multiplication Charts	<10
Division	
Division Board	0
Division Charts*	0

Discussion

The focus of the AMS Essential Materials list is obviously on classroom materials rather than lessons. The research list of EC lessons incorporates all of the "Essential" and "Desired" materials as outlined by AMS.

Not surprisingly, the research classrooms in the pilot tend toward more basic materials. This is likely due to the early stage of the process and because many classrooms who are participating are likely new. More complex lessons and materials would be anticipated in future analysis.

The value of the AMS/MRX Research Initiative is that future analysis can further break the information down and examine classroom practices at the lesson level.

Next Steps

- · Assembling Elementary "list"
- Creating relational database containing data
- · Application for researchers to access data
- Encouraging researchers to use the data:
 - oAMS Website
 - oDissertations/Theses
 - oPeriodic updates on interesting findings
 - OAMS Mini Grant Program
 - Outside organizations
- Launch plans for Elementary Summer 2012

Contact information

Angela K. Murray

University of Kansas Lawrence, KS akmurray@ku.edu research@amshq.org

*Denotes "Desired" rather than "Essential

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