

# A Reexamination of Implementation Practices in Montessori Early Childhood Education

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## Introduction

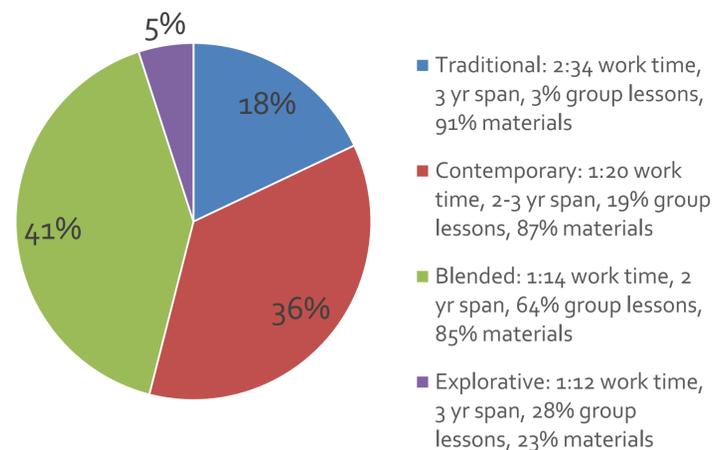
Inconsistencies in Montessori implementation make it difficult to assess outcomes. While there is consensus on key components, it is unclear how reliably Montessori classrooms adhere to these criteria.

This study replicates an earlier investigation (Daoust, 2004) and uses cluster analysis to determine if similar groups of Montessori early childhood educators emerge. Specifically, we explored if a larger, more diverse sample of teachers showed greater fidelity.

## Background

In 2004 66 Montessori EC teachers were interviewed about their practices. Analysis revealed 4 subgroups:

### Previous EC Clusters



N=66

## Methods

Recruitment	Convenience Sample	N = 183
	Mont Compass Subscribers	N = 99
	Facebook Research Group	N = 84
Instrument	Practices Survey	
	4-pt Likert Scale Qs	26 items
	Demographics	42 items
Participants (87% credentialed)	Montessori EC Teachers	
	AMS Credentialed	58%
	AMI Credentialed	19%

## Results

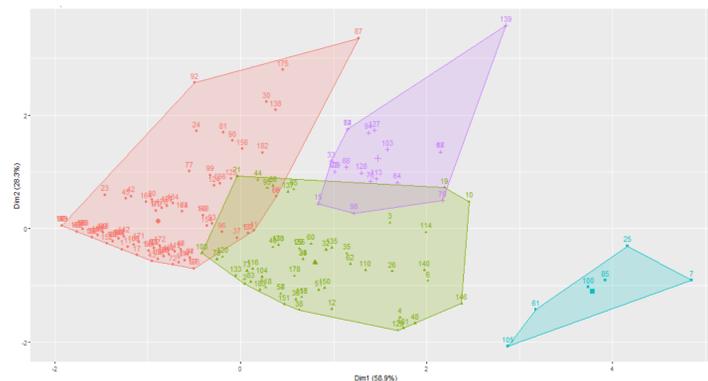
### Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) reported elsewhere revealed three constructs within the 18 practices items retained for analysis: Freedom, structure and curriculum (Murray, Chen, Daoust, & Amos, 2019). Composite scores were created for each of the three constructs.

### Construct Definitions

Structure	
Observation used for daily lesson planning	3-hour uninterrupted work period
Children give lessons to one another	Lessons mostly given to individuals
Children's activities recorded each day	Even spread across a 3-yr age span
Curriculum	
Full set of Montessori materials is available	A polishing activity is available
Older children do golden bead addition	Care for classroom plants
Classroom books feature realistic stories	Walk on the line carrying objects
Children regularly prepare food	Garden in a designated area
Freedom	
May choose to work alone or with others	Choose their work/activities
Determine how long to work with an activity	Decide where they will work

### Cluster Plot



### Cluster Analysis

K-means cluster analysis was conducted on the three composite variables. We examined 2, 3, 4 and 5 cluster solutions choosing the 4 cluster solution because it yielded the best separation in the Principal Components cluster plot.



### Composite Means

- Structure
- Curriculum
- Freedom

Public Schools	36%	26%	33%	18%
Lessons at Circle	57%	64%	83%	34%
Non-Mont Activity	37%	62%	78%	29%
<b>Average</b>				
% Lesson Groups ≤5	50%	61%	39%	72%
Lessons/Day	10.3	7.9	5.6	10.7
Agree Modify Mont	2.2	2.4	2.7	2.1
Work/Circle Time	wrk 2:16 / cir :14	wrk 2:20 / cir :14	wrk 1:41 / cir :22	wrk 2:33 / cir :12

Note: Composite scores range from 1 to 4.

## Discussion

Four distinct groups of Montessori early childhood educators emerged based on constructs of structure, curriculum and freedom. They show similarity within groups and differentiation between them.

**Regulated:** While implementing Montessori structure and curriculum elements at moderately high levels, this group reports lowest levels on freedom. Although some non-Montessori activities are reported and lessons are sometimes given at circle, it is less frequent than Freedom Focused and Modified clusters. Largest proportion of public schools are in this cluster.

**Freedom Focused:** With among the highest levels of freedom, this group shows lower degrees of curriculum and structure than Classic and Regulated clusters. More lessons are given at circle and non-Montessori activities are available, but work time is relatively long.

**Modified:** As the smallest group, these teachers are dramatically lower than other clusters on both structure and curriculum while being relatively high on freedom. A high percentage of them give lessons during circle and offer non-Montessori activities. Work times are shorter, fewer lessons are given and they acknowledge a higher degree of modifying Montessori practices.

**Classic:** The largest group reports the highest levels of implementation across structure, curriculum and freedom. They had the longest work times and largest proportion of small group lessons with much lower rates of giving lessons during circle time or offering non-Montessori activities. This group also has the smallest presence in public schools.

## Future Directions

Additional data are being gathered to further validate the Teacher Questionnaire and similar analysis is planned for the elementary level. In addition, a Measure of Montessori Implementation observation tool is being piloted. Correlating the two instruments will further validate their use in future research.

## References

- Daoust, C. (2004). *An examination of implementation practices in Montessori education* (Unpublished doctoral dissertation). University of California at Berkeley.
- Murray, A., Chen, J., Daoust, C., & Amos, A., (2019, April). *Dimensions of fidelity in a constructivist classroom*. Paper presented at the AERA Annual Meeting, Toronto, Ontario.

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