



## YEAR 3 PROGRAM ASSESSMENT: EXECUTIVE SUMMARY

### Overview

From Fall 2014 to Spring 2015, 123 preschool students from economically vulnerable communities in New Orleans participated in Mini Masters, an early childhood arts integration program provided by the New Orleans Museum of Art (NOMA). In its third year, results suggested that program participants experienced an increase in responsiveness and appreciation for art.

### Program Description

Mini Masters employs a multi-layered approach:

- Four guided museum visits to NOMA per class
- In-class lessons and studio art activities
- Professional Development for Educators
- Lesson plans complete with teaching standards aligned to: *National Visual Arts Standards, Teaching Strategies Gold (TS-Gold), and Early Learning & Development Standards (ELDS)*
- Parental involvement and showcase of student artwork

### Assessment

One hundred and twenty-three students were interviewed both pre- and post-program intervention, yielding a final intervention group of 108 students, and a control group of 15 students. Interviews entailed a discussion concerning the reproduction of a piece of art from NOMA. The interviews were videotaped and a coding checklist was created based on the 2013-2014 protocol. The checklist including coding for parts of speech used during the discussion (nouns, adjectives, and verbs) and for seven patterns of thinking skills based on Bloom’s Taxonomy including: naming, describing, inferring, extending, connecting, and questioning. The length of the interviews and number of adult prompts required for the discussion were also included in the coding checklist. The items on the coding checklist were averaged for both intervention and control groups.

### Results

Mini Masters students showed a 41% increase in nouns, a 109% increase in adjectives, and a 58% increase in verbs.

TREATMENT GROUP	PRE-INTERVENTION	POST-INTERVENTION
Total changes in vocabulary use		
Nouns	14.22	20.11
Adjectives	1.27	2.65
Verbs	3.40	5.37

When comparing pre- to post-intervention interviews, Mini Masters students used more complex vocabulary when describing art, and employed a greater number of complex thinking skills.

#### Total changes in higher-order thinking skills:

Naming – 46% increase	Connections - 23% increase
Describing - 55% increase	Questioning - 122% increase
Inferences - 93% increase	Extending - 36% increase

These findings indicate that more time during the post-intervention interview was spent on higher order thinking skills overall.



## Study Design

In the Fall 2014 to Spring 2015 school year, children from four different schools within the New Orleans city limits participated in the Mini Masters program. The preschools included classes from a private childcare center for children ages six weeks to five years old; classes within a charter school for preschoolers through eighth

graders; and one Head Start center for children ages birth through five years old. An additional classroom from the Charter School served as the control group. Participating students were between the ages of four and five years old and preparing to enter kindergarten the following year.

## Discussion

Data from the 2014-2015 Mini Masters program indicates that the intervention may lead to improved language use and higher order thinking skills. Results demonstrate an increase in engagement related to art appreciation. Similar to the gains seen in the 2013-2014 pilot year, program participants experienced a decrease in need for prompting, and increase in both descriptive vocabulary and higher level thinking skills between the pre and post intervention interviews. While the control group also made gains, these are expected due to a preschooler's development over the course of their

Pre-K school year. However, these students still required longer interview times, more prompting, and the differences between the averages for adjective use and inferring were significant between intervention and control groups. It should also be noted that gains in the control group may seem more dramatic, due to the small sample size for this group. Despite these limitations, results from the 2014-2015 evaluation provide evidence supporting for the continued implementation of the Mini Masters program.

TABLE 1: Change in Length of Assessment and Number of Prompts, Pre & Post Intervention

	INTERVENTION (n=108)				CONTROL (n=15)			
	Length of Assessment (minutes)		Number of Prompts		Length of Assessment (minutes)		Number of Prompts	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
PRE-INTERVIEW	4:08	0:50 – 14:12	5.93	3 – 14	2:54	1:20 – 4:05	5.87	4 – 11
POST-INTERVIEW	4:07	1:04 – 18:25	5.63	1 – 21	3:27	1:15 – 7:07	7.00	4 – 11
TOTAL CHANGE	-0:01		-0.3		+0:33		+1.13	
PERCENTAGE	-0.4%		-5%		+19%		+19%	

TABLE 2: Change in Number of Nouns, Adjectives, and Verbs Used, Pre & Post Intervention

	INTERVENTION (n=108)			CONTROL (n=15)		
	Nouns Used	Adjectives Used	Verbs Used	Nouns Used	Adjectives Used	Verbs Used
PRE-INTERVIEW	14.22	1.27	3.40	10.87	0.80	1.67
POST-INTERVIEW	20.11	2.65	5.37	13.60	0.80	3.00
TOTAL CHANGE	5.89*	1.38*	1.97*	2.73	0.00	1.33
PERCENTAGE	+41%	+109%	+58%	+25%	No change	+80%

\*Indicates statistical significance at  $p < 0.05$

### ***Changes in vocabulary***

The intervention group used an average total of 14.22 nouns, 1.27 adjectives, and 3.40 verbs before the intervention. Post-intervention, the intervention group used a total of 20.11 nouns, 2.65 adjectives, and 5.37 verbs. This represents a 41% increase in nouns, a 109% increase in adjectives, and a 58% increase in verbs.

The control group used an average total of 10.87 nouns, 0.80 adjectives, and 1.67 verbs before the intervention. Post-intervention, they used a total of 13.60 nouns, 0.80 adjectives, and 3.00 verbs. This represents a 25% increase in nouns, no change in adjectives, and an 80% increase in verbs.

The results illustrate that the intervention group used a greater number of descriptive words (nouns and adjectives) after the program intervention, while the control group used more concrete words (verbs). However, the change in the number of nouns, adjectives and verbs used in the pre- and post-intervention interviews was only statistically significant in the intervention group.

**TABLE 3: Change in Bloom’s Taxonomy Thought Processes, Pre & Post Intervention**

THOUGHT PROCESSES		Names	Describes	Infers	Connects	Questions	Extends
<b>Intervention</b> (n=108)	<b>Pre-interview</b>	12.52	1.80	1.58	0.66	0.63	1.66
	<b>Post-interview</b>	18.26	2.79	3.05	0.81	1.40	2.26
	<b>Total Change</b>	5.74*	0.99	1.47*	0.15	0.77	0.60
	<b>Percentage</b>	46% increase	55% increase	93% increase	23% increase	122% increase	36% increase
<b>Control</b> (n=15)	<b>Pre-interview</b>	11.53	1.00	0.93	0.20	0.40	0.93
	<b>Post-interview</b>	13.60	3.60	4.60	0.00	0.40	1.00
	<b>Total Change</b>	2.07	2.60	3.67	-0.20	0.00	0.07
	<b>Percentage</b>	18% increase	260% increase	395% increase	100% decrease	No change	8% increase

***Changes in higher-order thinking skills***

Between the pre and post intervention interviews, intervention group participants increased the number of times they named by 46%; described by 55%; made inferences by 93%; connected by 23%; asked questions by 122%; and extended 36%. These findings indicate that more time during the post-intervention interview was spent on higher order thinking skills overall.

Analyses comparing the intervention and control groups found that the changes between pre- and post- intervention interviews were statistically significant for naming and interfering. During the second interview, participants from the control group increased the number of times they named, described, inferred, extended, and connected, as well, but still required longer interview times and more prompting to discuss the art.

