

YEAR 4 PROGRAM ASSESSMENT: EXECUTIVE SUMMARY



Overview

From Fall 2015 to Spring 2016, 218 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 fourth year, results suggest that program participants continue to experience an increase in responsiveness and appreciation for art, in addition to an improvement in receptive vocabulary skills.

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

Ninety-seven students participated in the evaluation. Students were interviewed both pre- and post- program intervention, with a final intervention group of 78 students, and a control group of 19 students. Students were assessed utilizing the art interpretation assessment that has been used in previous years of the program. This year, additional assessments were administered to assess language and cognitive skills. Additional measures were added to explore the impact of the Mini Masters program on language and cognitive skills and to provide context to the differences between the treatment and control groups

Results

- Students in the Mini Masters intervention group continue to demonstrate a significant increase in the parts of speech (nouns, adjectives, and verbs) used during the art interpretation assessment, compared to the control group.
- Improvements were seen in the Mini Masters intervention group for several of the Bloom's Taxonomy higher order thinking skills categories: naming, inferring, connecting, and extending.
- The most notable finding this year was a significant increase in receptive vocabulary (Peabody Picture Vocabulary Test scores) in the intervention group compared to the control group. This suggests a positive impact of the Mini Masters program not only on art appreciation, but also on language development.

Mini Masters is a unique and valuable program to the early childhood community in New Orleans. Its programmatic activities are a useful way to not only enrich classroom experience but to impact positive child development for those children participating.



Study Design

In the Fall 2015 to Spring 2016 school year, 218 children from six different schools within the New Orleans city limits participated in the Mini Masters program. The preschools included classes within a charter school for preschoolers through eighth graders; and two Head Start centers for children ages birth through five years old. An additional classroom from a private childcare center partnering with 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.

Assessment

For the art interpretation assessment, 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.

Language was assessed with the Peabody Picture Vocabulary Test (PPVT) and the Preschool Language Scale-5th Edition (PLS). The PPVT is a vocabulary test that measures how many words a child understands. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical. The PLS is an interactive, play-based assessment that measures two components of language through two sub-scales: (1) Auditory Comprehension and (2) Expressive Communication. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical.

Cognitive skills were assessed with the Bracken Basic Concepts Scale. The Bracken looks at a child's development of basic school-related concepts including: colors, letters, numbers/counting, sizes, comparisons, and shapes. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical.

These measures were selected to explore the impact of the Mini Masters program on language and cognitive skills and to provide context to the differences between the treatment and control groups. Based on the findings outlined in this report, in future program years only the Peabody Picture Vocabulary test will be conducted, as the other exploratory assessments did not show significant results.

ART INTERPRETATION

TABLE 1: Change in Bloom’s Taxonomy Thought Processes, Pre & Post Intervention

THOUGHT PROCESSES		Names	Describes	Infers	Connects	Questions	Extends
Treatment	Pre-interview (n=32)	15.59	0.97	1.00	0.09	0.44	2.25
	Post-interview (n=78)	16.21	2.85	2.09	0.77	0.60	2.42
	Total Change	0.62	1.88	1.09	0.68	0.16	0.17
	Percentage	4% increase	194% increase	109% increase	755% increase	43% increase	8% increase
Control	Pre-interview (n=19)	6.21	1.79	0.63	0.05	0.26	1.26
	Post-interview (n=13)	8.08	0.46	0.00	0.00	0.08	0.31
	Total Change	1.87	-1.33	-0.63	-0.05	-0.18	-0.95
	Percentage	30% increase	74% decrease	100% decrease	100% decrease	69% decrease	75% decrease

Changes in higher-order thinking skills

Between the pre- and post-intervention interviews, intervention group participants increased the number of times they named by 4%; described by 194%; made inferences by 109%; connected by 755%; asked questions by 43%; and extended by 8%. These findings indicate that more time during the post-intervention interview was spent on higher order thinking skills overall.

The differences in the naming, inferring, connecting and extending between the intervention and control groups were statistically significant even when controlling for children’s scores on language and cognitive measures.



ART INTERPRETATION

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

	TREATMENT (Pre-Interview n=32, Post-Interview n=78)			CONTROL (Pre-Interview n=19, Post-Interview n=13)		
	Nouns Used	Adjectives Used	Verbs Used	Nouns Used	Adjectives Used	Verbs Used
PRE-INTERVIEW	16.19	3.53	1.75	7.05	2.42	1.12
POST-INTERVIEW	16.53	2.97	3.56	8.08	0.46	0.77
TOTAL CHANGE	0.34	-0.56	1.81	1.03	-1.96	-0.35
PERCENTAGE	2% increase	16% decrease	103% increase	15% increase	81% decrease	31% decrease

Changes in vocabulary

The differences in the number of nouns, adjectives, and verbs used between the intervention and control groups was statistically significant, however, unlike 2014-2015 data, there were no significant changes in vocabulary usage pre and post intervention within the intervention group. Even when taking into consideration the additional language and cognitive measures, there were no significant differences in vocabulary usage in the intervention group. These results demonstrate that the intervention and control groups were different from one another prior to the intervention, but do not demonstrate differences as a result of the intervention.



ART INTERPRETATION

TABLE 3: Change in Length of Assessment and Number of Prompts, Pre & Post Intervention

	TREATMENT (Pre-Interview n=32, Post-Interview n=78)				CONTROL (Pre-Interview n=19, Post-Interview n=13)			
	Length of Assessment (minutes)		Number of Prompts		Length of Assessment (minutes)		Number of Prompts	
	Mean	Range	Mean	Range	Mean	Range	Mean	Range
PRE-INTERVIEW	5:28	1 – 9 minutes	6.34	4 – 10	4:84	1 – 15 minutes	6.11	3 – 12
POST-INTERVIEW	4:14	1 – 20 minutes	3.64	1 – 11	2:08	1 – 5 minutes	3.77	2 – 6
TOTAL CHANGE	-1.14		-2.70		-2.76		-2.34	
PERCENTAGE	23% decrease		43% decrease		57% decrease		38% decrease	

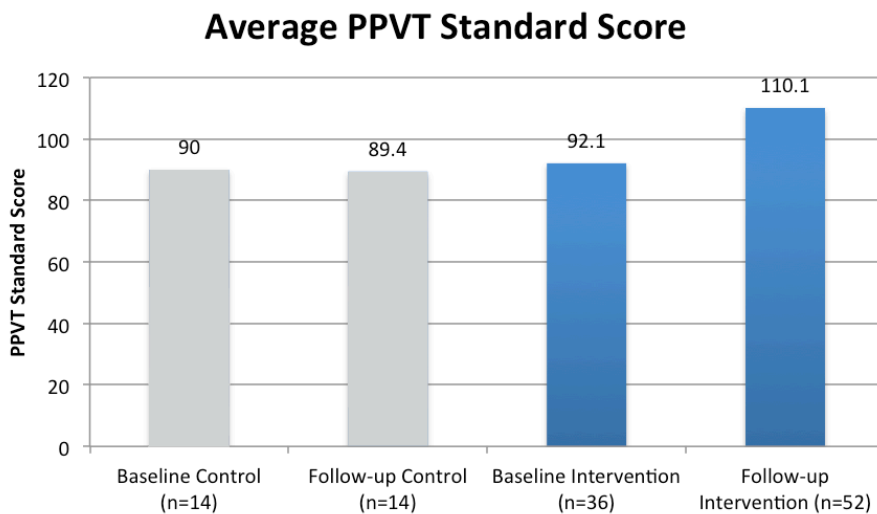
Results

There was a decrease in the length of the assessment time and the number of prompts for both the intervention and control groups between pre- and post-intervention interviews. However, the differences between these two groups were not statistically significant.



VOCABULARY COMPREHENSION

FIGURE 1: Average Peabody Picture Vocabulary Test (PPVT) Standard Score



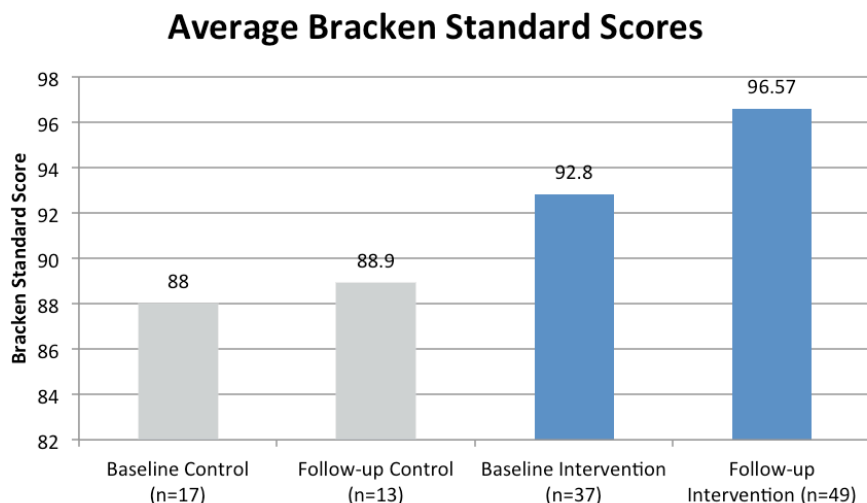
The Peabody Picture Vocabulary Test (PPVT) is a vocabulary test that measures how many words a child understands. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical.

FIGURE 1 illustrates the average standard PPVT score for children in the control and intervention groups at baseline and follow-up.

Children in the intervention group had higher PPVT scores post intervention and compared to the control group, and all of these findings are statistically significant. Having this information allows us to better compare the art interpretation assessments between each group and demonstrates an independent effect on language in the intervention group.

SCHOOL READINESS CONCEPTS

FIGURE 2: Average Bracken Standard Scores



The Bracken looks at a child’s development of basic school-related concepts including: colors, letters, numbers/counting, sizes, comparisons, and shapes. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical.

FIGURE 2 illustrates the average standard Bracken score for children in the control and treatment groups at baseline and control.

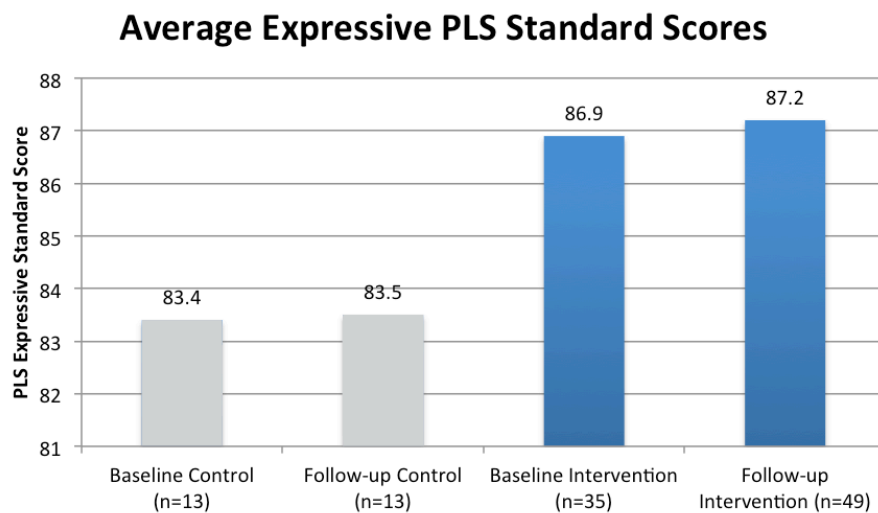
Children in the intervention group had higher Bracken scores than the control group; however, the improvement seen from baseline to follow-up in the intervention group is not statistically significant.

Additionally Bracken scores were important when comparing several of the Bloom’s Taxonomy constructs (extending, connecting, and inferring) between control and intervention groups for the art interpretation.



LANGUAGE EXPRESSION

FIGURE 5: Average Expressive Communication Preschool Language Scale (PLS) Standard Scores



The Preschool Language Scale (PLS) is an interactive, play-based assessment that measures two components of language through two sub-scales: (1) Auditory Comprehension and (2) Expressive Communication. The validated assessment has a mean standard score of 100, with a range of 85-115 considered typical. For this project, only the Expressive Communication Scale was conducted.

FIGURE 5 illustrates the average Expressive Communication standard score of the Preschool Language Scale for children in the control and treatment groups at baseline and control.

Children in the intervention group had higher Expressive Communication standard scores than the control group; however, the improvement in the intervention group from baseline to follow-up is not statistically significant.

Additionally, PLS scores were important when comparing several of the Bloom’s Taxonomy constructs (naming and inferring) between control and intervention groups for the art interpretation.

mini MASTERS

YEAR 4 | 2015 – 2016

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NOMA
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