

Evaluating Academic Outcomes: A Quantitative Analysis of Special Program in the Arts (SPA) in Mandaluyong City, Philippines

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Abstract— This study presents the quantitative analyses conducted to evaluate academic outcomes of students enrolled in the Special Program in the Arts in the Department of Education, Mandaluyong City. The findings suggest that the Special Program in the Arts in Mandaluyong City has a positive impact on students' academic outcomes. Quantitative analysis supports the notion that arts integration in education not only enhances academic performance but also fosters a range of beneficial cognitive and personal skills.

Keywords— Academic outcomes, Department of Education, descriptive-correlational, Mandaluyong City, Special Program in the Arts.

I. INTRODUCTION

Scholars, educators, and policymakers have all shown a great deal of interest in the incorporation of arts education into the academic program. The development of cognitive talents is frequently associated with arts education. Scholars contend that participating in the arts fosters the development of critical thinking, problem-solving skills, and information synthesis abilities [1,2]. Gardner's theory of multiple intelligences proposes that arts education can foster the development of spatial, bodily-kinesthetic, and musical intelligences, all of which can enhance academic success in general [3,4]. Students who participated in the arts showed increases in their capacity for creativity, critical thought, and problem-solving [5,6].

The arts play an important influence in cognitive development and academic success. Accordingly, participation in the arts promotes critical thinking, problem-solving, and creativity [7]. These cognitive talents are transferable to other academic areas, indicating that arts education can have a wide-ranging impact on learning. Arts education gives students the opportunity to learn about diverse cultures, customs, and perspectives [8,9]. This exposure promotes cultural knowledge and empathy, both of which are important aspects of social and emotional learning. Students can have a better awareness of their surroundings and the varied individuals who inhabit it by participating in the arts. Participation in the arts allows students to express themselves, which can be therapeutic and beneficial to their mental well-being [10]. The process of producing art allows children to express their emotions and

experiences, which can lead to increased self-esteem and a sense of achievement.

Another topic of interest is how arts education contributes to social-emotional learning. Engaging in artistic pursuits can assist learners in cultivating empathy and emotional intelligence by enhancing their self-awareness and understanding of others [11, 12]. These abilities are thought to have an indirect impact on academic achievement by enhancing students' collaboration and school-related attitudes. In a longitudinal study, students who took part in an enhanced arts program did better on arithmetic and reading examinations than their peers [13]. In a similar vein, a correlation between greater exam scores and participation in the arts was found [14]. Such that, SPA students routinely fared better on standardized tests than their non-SPA peers [15].

II. BACKGROUND OF THE STUDY

The Special Program in the Arts (SPA) is a nationwide initiative by the Department of Education in the Philippines, designed to cater to students with exceptional talents in the arts. The program aims to nurture these talents through specialized instruction and training in various artistic disciplines such as music, visual arts, theater, dance, and creative writing. In the City Division of Mandaluyong, the SPA is implemented in select public schools, providing an opportunity for students to develop their artistic skills alongside their academic education. The Special Program in the Arts (SPA) envision an excellent young artist with aesthetic potential and renewed spirituality committed to the preservation of Filipino culture and heritage.

Congruent to its vision, the program aims to develop student with special inclination to music, visual arts, theater arts, creative writing, media arts and dance; develop student to express their ideas and feeling through their chosen art forms; develop a sense of nationalism through deepened appreciation of Filipino culture and arts; develop aesthetic awareness and perception; and develop the general skills and attitudes, the habits of heart and mind student will need as preparation for life and work in a postmodern society regardless of their chosen career.

The program is composed of two clusters, namely: Performing Arts, and Non-Performing Arts. The Performing Arts program comprised of *Music (Voice and Instruments, Theater Arts, and Dance)*. Music, dance, theater, and opera are among the many disciplines that fall under the umbrella of Performing Arts. Individuals in these fields are educated and trained through programs that attempt to foster creative potential while also providing a complete understanding of the history, theory, and practice of the performing arts. On the other hand, Non-performing Arts program offers *Visual Arts, and Creative Writing/Malikhaing Pagsulat*. In the study of arts education, substantial emphasis is frequently focused on performing arts such as music, dance, and theatre. Non-performing arts activities, such as visual arts, literature, and digital arts, are just as important in helping students develop creativity and critical thinking skills.

This study covers the implementation of Special Program in the Arts for Junior High School (Grade 7-10) under the K-12 curriculum of the Philippine Department of Education as illustrated in figure 1. This research covers the first 5-year project implementation from School Year 2014-2015 to S.Y. 2018-2019.

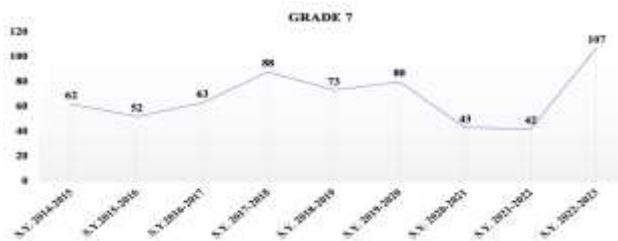


Fig. 1. Grade 7 Admission to SPA.

This study aimed to determine the extent of implementation of the Special Program in the Arts. Specifically, it sought answers to the following questions:

1. Is there a significant relationship between the program implementation and curriculum design?
2. Is there a significant relationship between the student engagement and participation and academic performance?
3. Is there a significant relationship between the academic performance and artistic development?

III. METHODOLOGY

A. Research Design

This study utilized the descriptive-correlational research design. The descriptive-correlational research design is a popular choice for such evaluations because it allows researchers to observe, characterize, and investigate correlations between variables without changing the study environment [17,18]. Descriptive-correlational studies in this subject have investigated many characteristics of program delivery and their relationship to student results. The descriptive-correlational design acts as a link between simple description and causality [19].

B. Sample Size and Sampling Technique

Based on the 190 total graduates after the 5 SPA cohorts, Slovin’s formula was utilized to determine the sample size considering the acceptable 5% margin of error resulting in 129 as the sample size as shown in table 1. Simple random sampling was utilized to determine the respondents from the 5 cohorts.

TABLE I. Graduation Rate of JHS SPA.

School Year	Grade 7			Grade 8			Grade 9			Grade 10			Graduation Rate
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	
2014-2015	17	45	62	14	22	36	11	19	30	9	18	27	44%
2015-2016	16	36	52	9	31	40	9	26	35	8	22	30	58%
2016-2017	22	41	63	18	31	49	15	31	46	14	27	41	65%
2017-2018	37	51	88	27	40	67	18	28	46	18	27	45	51%
2018-2019	27	46	73	18	33	51	19	33	52	17	30	47	64%
Total	119	219	338	86	157	243	72	417	489	66	124	190	56%

C. Data Gathering Instrument

A 4-part researcher-developed questionnaire was utilized as the main data gathering instrument. The same questionnaire was subjected to face and content validity with the guidance of the research experts, and was piloted tested to determine the reliability and validity. Face and content validity are critical components of the overall validity of a measurement instrument. While face validity is concerned with the appearance of validity, content validity goes deeper to ensure that all aspects of the construct are accurately represented. It was administered using Google Form for accessibility.

D. Data Analysis

The response rate of the survey was 93% (120/129). Data gathered was processed, and analyzed using IBM SPSS employing the descriptive and inferential statistical tools such as mean, standard deviation, rank, correlation and regression analysis.

IV. RESULTS AND DISCUSSION

The section presents the findings of this paper, interpretation, and implications.

A. Program Implementation and Curriculum

The Special Program in the Arts yield in overall graduation rate of 56% for the 5 school years of implementation as shown in figure 1.

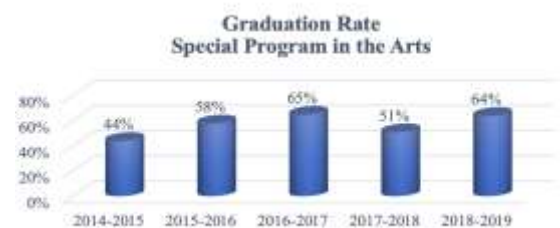


Fig. 2. Graduation Rate of SPA SY 2014-2019

The result of the Pearson correlation showed that there was a very high, positive correlation between Program Implementation and Curriculum as shown in table 2. The

correlation between Program Implementation and Curriculum was statistically significant, $r(118) = 0.77, p = <.001$.

TABLE II. Correlation Analysis

	r	p
Program Implementation and Curriculum	0.77	<.001

The regression model showed that the variable Curriculum explained 59.48% of the variance from the variable Program Implementation. An ANOVA was used to test whether this value was significantly different from zero. Using the present sample, it was found that the effect was significantly different from zero, $F=173.24, p = <.001, R^2 = 0.59$.

TABLE III. Model Summary

R	R ²	Adjusted R ²	Standard error of the estimate
0.77	0.59	0.59	0.63

The following regression model is obtained:

$$Program\ Implementation = 0.41 + 0.9 \cdot Curriculum$$

- *Constant*: When all independent variables are equal to zero, the value of the variable *Program Implementation* is 0.41.
- *Curriculum*: If the value of the variable *Curriculum* changes by one unit, the value of the variable *Program Implementation* changes by 0.9.

TABLE IV. ANOVA

Model	df	F	p
Regression	1	173.24	<.001

Accordingly, SPA provides a one-of-a-kind curriculum that combines the rigor of academic courses with intensive arts instruction via specialized arts classes that promote creative expression and artistic skill mastery. The very high, positive association between program implementation and curriculum emphasizes the need of examining both components simultaneously when attempting to improve educational outcomes. Scholars posit successful program implementation can dramatically improve the efficacy of a curriculum, resulting in better learning experiences for students [21].

B. Student Engagement and Participation and Academic Performance

The result of the Pearson correlation showed that there was a very high, positive correlation between Student Engagement and Participation and Academic Performance as shown in table 5. The correlation between Student Engagement and Participation and Academic Performance was statistically significant, $r(118) = 0.87, p = <.001$.

TABLE V. Correlation Analysis

	r	p
Student Engagement and Participation and Academic Performance	0.87	<.001

The regression model showed that the variables Curriculum and Student Engagement and Participation explained 82.85% of the variance from the variable Academic Performance as shown in table 6.

TABLE VI. Model Summary

R	R ²	Adjusted R ²	Standard error of the estimate
0.91	0.83	0.83	0.37

An ANOVA was used to test whether this value was significantly different from zero as shown in table 7. Using the present sample, it was found that the effect was significantly different from zero, $F=282.67, p = <.001, R^2 = 0.83$ as shown in table 6.

TABLE VII. ANOVA

Model	df	F	p
Regression	2	282.67	<.001

The following regression model is obtained:

$$Academic\ Performance = 0.19 + 0.58 \cdot Curriculum + 0.38 \cdot Student\ Engagement\ and\ Participation$$

- *Constant*: When all independent variables are equal to zero, the value of the variable *Academic Performance* is 0.19.
- *Curriculum*: If the value of the variable *Curriculum* changes by one unit, the value of the variable *Academic Performance* changes by 0.58.
- *Student Engagement and Participation*: If the value of the variable *Student Engagement and Participation* changes by one unit, the value of the variable *Academic Performance* changes by 0.38.

As gleaned, involved in Mandaluyong's SPA programs had higher levels of motivation and involvement in both arts and academic topics than their normal curriculum counterparts. This is ascribed to the arts program's relevancy and interest-based orientation [22].

C. Academic Performance and Artistic Development

The result of the Pearson correlation showed that there was a very high, positive correlation between Academic Performance and Artistic Development as shown in table 8. The correlation between Academic Performance and Artistic Development was statistically significant, $r(118) = 0.96, p = <.001$.

TABLE VIII. Correlation Analysis

	r	p
Academic Performance and Artistic Development	0.96	<.001

The regression model showed that the variables *Academic Performance and Artistic Development* explained 100% of the variance from the variable *Artistic Development*.

TABLE IX. Model Summary

R	R ²	Adjusted R ²	Standard error of the estimate
1	1	1	0

An ANOVA was used to test whether this value was significantly different from zero. Using the present sample, it was found that the effect was significantly different from zero, $F=22909615495754204, p = <.001, R^2 = 1$.

TABLE X. ANOVA

Model	df	F	p
Regression	2	22909615495754204	<.001

The following regression model is obtained:

$$\text{Artistic Development} = 0 - 0 \cdot \text{Academic Performance} + 1 \cdot \text{Artistic Development}$$

- **Constant:** When all independent variables are equal to zero, the value of the variable *Artistic Development* is 0.
- **Academic Performance:** If the value of the variable *Academic Performance* changes by one unit, the value of the variable *Artistic Development* changes by 0.
- **Artistic Development:** If the value of the variable *Artistic Development* changes by one unit, the value of the variable *Artistic Development* changes by 1.

The study found a very high positive correlation ($r(118) = 0.96, p < .001$) between academic performance and artistic development, is supported by a body of empirical research. A meta-analysis by demonstrated that students with high engagement in the arts tend to have higher academic performance compared to their peers with less artistic involvement [22,23], such that with students in arts-rich programs outperforming those in arts-poor programs on standardized tests. Despite the favorable outcomes connected with the SPA program, there have been problems identified in the research. Limited resources, limited funding, and the need for professional development for arts educators are common issues in the research.

V. CONCLUSION AND RECOMMENDATIONS

The study presents a compelling case for the positive impact of the Special Program in the Arts on student outcomes in the City Division of Mandaluyong. The relationship between arts education and academic performance is complex and multifaceted. While there are challenges to be addressed, the SPA program has shown promise in enhancing student engagement, academic performance, and the development of artistic talents. Further research is needed to clarify these relationships and to understand the mechanisms through which arts education may influence academic outcomes. Continued research and support are necessary to ensure that the program reaches its full potential.

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