



RESEARCH BRIEF

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Miami-Dade County Public Schools: 2016-2017 Student Performance in the International Baccalaureate Program

Results at a Glance

This Research Brief summarizes the performance of Miami-Dade County Public Schools (M-DCPS) students participating in the International Baccalaureate (IB) program. The IB program was offered at six M-DCPS high schools in 2016-2017. The number of IB examinations taken in M-DCPS increased by five percent from 2015-2016 to 2016-2017. During the same time period, the number of IB examinations receiving passing scores decreased by one percentage point. Female students took 65% of the examinations in M-DCPS. Passing rates on IB examinations taken by students classified as "Other" (American Indian, Alaskan Native, Asian, Pacific Islander, and Multiracial categories) were highest, followed by examinations taken by White students, Hispanic students, and Black students. A higher percentage of examinations taken by the District's female students received passing scores than examinations taken by male students. At the conclusion of the 2016-2017 school year, 71% of eligible M-DCPS students received IB diplomas, a decrease of seven percentage points from 2015-2016.

The International Baccalaureate (IB) program is a rigorous pre-university curriculum and examination program that emphasizes the development of students' intellectual, personal, emotional, and social skills. The IB program provides students with a broad general education, while offering specialization based on students' interests and plans. The IB program is recognized at colleges and universities throughout the United States and worldwide.

Three IB programs span the years from kindergarten to pre-university. The programs can be offered individually (the Primary Years Program for students aged 3-12, the Middle Years Program for students aged 11-16, and the IB Diploma Program for students aged 16-19) or as a continuum. A fourth program, the Career-Related Program, is designed to address the needs of students aged 16-19 who are engaged in career-related education. This report focuses on the IB Diploma Program that is offered at M-DCPS senior high schools.

The IB Diploma Program is a two-year liberal arts curriculum designed to promote understanding of global citizenship. The program encourages students to become critical and compassionate thinkers and informed participants in local and world affairs. Students study six courses from six subject groups: language and literature; language acquisition; individuals and societies; sciences; mathematics; and the arts. Students take some subjects at higher level (HL) and some at standard level (SL). Each student takes at least three (but not more than four) subjects at HL and the

remaining subjects at SL. Students taking courses at HL are expected to demonstrate a greater body of knowledge, understanding, and skills. Three additional core requirements are designed to broaden students' educational experience: the extended essay, an independent, self-directed research project, culminating in a 4,000-word paper; a Theory of Knowledge course that encourages students to reflect on the nature of learning and different kinds of knowledge; and a Creativity, Action, Service (CAS) component that requires students to take part in a range of experiences and at least one project.

IB course descriptions in language and literature are as follows:

- Language A: Literature – The course introduces students to the analysis of literary texts. The course is available in 55 languages.
- Language A: Language and Literature – The course introduces the critical study and interpretation of written and spoken texts from a wide range of literary and non-literary genres. The course is available in 17 languages.
- Literature and Performance – The course explores the relationship between literature and theatre. The course is automatically available in English, and by special request in Spanish and French.

IB course descriptions in language acquisition are as follows:

- Language Ab Initio – The course is for beginners (students who have little or no previous experience of learning the language they have chosen).
- Language B – The course is intended for students who have some previous experience of learning the language.
- Classical Languages (Latin or Classical Greek) – The course provides opportunities for students to study the language, literature, and culture of ancient Rome or Greece.

Students in the IB Diploma Program take written examinations in each subject. These examinations assess the extent to which students have mastered advanced academic skills such as analyzing and presenting information; evaluating and constructing arguments; and solving problems creatively. Basic skills are also assessed, including retaining knowledge, understanding key concepts, and applying standard methods. Examinations are scored on a scale of 1 to 7 for each subject. A score of 4 is considered to be a passing score on an IB examination. Students must earn a total of 24 points on their six IB examinations in order to receive the IB diploma, subject to certain minimum levels of performance across all components of the program and satisfactory completion of the CAS requirement. Students can also be awarded up to three additional points toward the overall diploma score for their combined results on the Theory of Knowledge course and the extended essay.

Six M-DCPS high schools offered the IB program and administered the corresponding IB examinations during the 2016-2017 school year: Coral Gables Senior, Coral Reef Senior, John A. Ferguson Senior, Miami Beach Senior, North Miami Senior, and South Dade Senior. This Research Brief includes data on these six M-DCPS schools. Tables included in this report provide

data on the number of IB examinations taken and the percentage of examinations receiving passing scores, by subject area for all six M-DCPS schools combined and by gender and ethnicity separately for each of the six IB schools. The number and percentage of participating students earning diplomas in the District and at each IB school are also provided. The reader should note that results are not reported if fewer than 10 examinations were taken.

Participation in Examinations

- In 2016-2017, M-DCPS students took 3,381 IB examinations. The number of examinations taken by M-DCPS students increased by 5% from 2015-2016 to 2016-2017.
- M-DCPS students took IB examinations in 29 subject areas in 2016-2017. Overall, the most IB examinations were taken in Biology, English Literature, History, Mathematical Studies, and Spanish B in 2016-2017. Almost two-thirds (64%) of IB examinations taken by M-DCPS students were taken in these five subject areas.
- The District's Hispanic students took 65% of all IB examinations in 2016-2017. White students took 20% of IB examinations, Black students took 9%, and students classified as "Other" (American Indian, Alaskan Native, Asian, Pacific Islander, and Multiracial categories) took 6%. From 2015-2016 to 2016-2017, the percentage of exams taken by Hispanic students increased; the percentage of exams taken by Black students and students classified as "Other" remained stable; and the percentage of exams taken by White students decreased.
- Sixty-five percent of IB examinations in M-DCPS were taken by female students and 35% were taken by male students in 2016-2017. The percentage of exams taken by both female and male students remained stable from 2015-2016 to 2016-2017.

Examination Results

- Overall, the percentage of IB examinations receiving passing scores in M-DCPS decreased from 81% in 2015-2016 to 80% in 2016-2017.
- The 2016-2017 subject areas in which the highest percentages of M-DCPS IB examinations received passing scores were English Literature, Film, German B, Information Technology in a Global Society, Italian B, Social and Cultural Anthropology, and Spanish B. The subject areas in which the lowest percentages of IB examinations received passing scores were Business Management; Sports, Exercise, and Health Science; and Visual Arts.
- In 2016-2017, 82% of IB examinations taken by M-DCPS White students, 81% of examinations taken by Hispanic students, 64% of examinations taken by Black students, and 87% of examinations taken by students classified as "Other" received passing scores. From 2015-2016 to 2016-2017, the percentage of examinations receiving passing scores remained stable for White and Hispanic students, and decreased for Black students and students classified as "Other."

- Eighty-one percent of the examinations taken by the District's female students and 78% of the examinations taken by the District's male students received passing scores in 2016-2017. The percentage of examinations passed by female students remained stable from 2015-2016 to 2016-2017, and examinations passed by male students decreased.
- District staff were informed by the International Baccalaureate Organization that science curricula and examinations were redesigned in 2016-2017. The percentage of M-DCPS Biology examinations receiving passing scores decreased from 66% to 53% from 2015-2016 to 2016-2017. In Chemistry, the percentage of examinations receiving passing scores increased from 35% to 60%, and in Physics, the percentage of examinations receiving passing scores increased from 38% to 61%.

Diploma Results

- Grade 12 students who were enrolled in the IB program, met all program requirements, and took the required examinations were eligible to receive IB diplomas. The number of M-DCPS students eligible to receive IB diplomas increased by six percent from 2015-2016 to 2016-2017.
- A total of 404 M-DCPS students, or 71% of eligible students, received IB diplomas at the conclusion of the 2016-2017 school year. The percentage of the District's eligible IB program students receiving an IB diploma decreased by seven percentage points from 2015-2016 to 2016-2017.
- It is possible that the decrease in the percentage of passing examinations in Biology was at least partially responsible for the decrease in the percentage of students receiving IB diplomas in 2016-2017.

**Table 1. Number of IB Examinations Taken and Percent of IB Exams Passed by Subject Area, 2015-2016 and 2016-2017
M-DCPS, All IB Schools Combined**

Subject Area	# of Exams Taken		% of Exams Passed	
	2015-2016	2016-2017	2015-2016	2016-2017
Biology	316	305	66%	53%
Business Management	24	17	79%	24%
Chemistry	204	165	35%	60%
Computer Science	3	11	N/A	46%
Dance	19	21	89%	86%
English A Literature	512	566	98%	96%
English B	1	3	N/A	N/A

Film	31	34	84%	97%
French AB	3	5	N/A	N/A
French B	99	125	87%	84%
Further Mathematics	1	1	N/A	N/A
Geography	28	43	43%	58%
German B	24	12	88%	92%
History	541	568	88%	88%
Information Technology in a Global Society	86	28	97%	96%
Italian B	17	14	82%	93%
Mathematical Studies	251	343	79%	77%
Mathematics	244	241	56%	64%
Music	2	0	N/A	N/A
Physics	13	18	38%	61%
Portuguese B	5	9	N/A	N/A
Psychology	283	282	86%	87%
Social and Cultural Anthropology	0	47	N/A	96%
Spanish A Language & Literature	22	17	95%	71%
Spanish A Literature	1	3	N/A	N/A
Spanish AB	13	0	77%	N/A
Spanish B	354	390	96%	94%
Sports, Exercise, and Health Science	20	55	40%	16%
Theatre	49	38	71%	55%
Visual Arts	5	10	N/A	30%
World Religions	37	10	92%	80%
Total, All Subjects	3208	3381	81%	80%

Table 2A. Number of IB Exams Taken and Percent of IB Exams Passed, by Ethnicity , 2015-2016 and 2016-2017

	White				Black			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
<u>School</u>	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
Coral Gables Senior	223	207	70%	78%	43	12	63%	83%
Coral Reef Senior	204	194	97%	90%	91	63	92%	89%
John A. Ferguson Senior	60	39	82%	74%	12	17	83%	88%
Miami Beach Senior	155	188	81%	85%	18	30	78%	67%
North Miami Senior	0	0	N/A	N/A	111	168	55%	52%
South Dade Senior	36	36	78%	64%	12	6	50%	N/A
Total, All IB Schools	678	664	82%	82%	287	296	70%	64%

Table 2A cont. Number of IB Exams Taken and Percent of IB Exams Passed, by Ethnicity, 2015-2016 and 2016-2017

<u>School</u>	Hispanic				Other			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
Coral Gables Senior	698	585	73%	78%	33	28	82%	75%
Coral Reef Senior	523	653	95%	89%	80	111	94%	90%
John A. Ferguson Senior	528	593	78%	78%	48	56	81%	82%
Miami Beach Senior	191	167	82%	81%	6	13	N/A	100%
North Miami Senior	33	50	76%	80%	13	0	92%	N/A
South Dade Senior	84	156	73%	63%	6	0	N/A	N/A
Total, All IB Schools	2057	2204	81%	81%	186	208	88%	87%

Table 2B. Number of IB Exams Taken and Percent of IB Exams Passed, by Gender, 2015-2016 and 2016-2017

<u>School</u>	Female				Male			
	# of Exams Taken		% of Exams Passed		# of Exams Taken		% of Exams Passed	
	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
Coral Gables Senior	656	551	73%	81%	341	281	70%	72%
Coral Reef Senior	596	675	95%	88%	302	346	95%	92%
John A. Ferguson Senior	409	499	78%	80%	239	206	80%	76%
Miami Beach Senior	220	224	78%	83%	150	175	86%	82%
North Miami Senior	94	141	65%	54%	63	79	59%	68%
South Dade Senior	96	108	77%	71%	42	96	64%	49%
Total, All IB Schools	2071	2198	81%	81%	1137	1183	80%	78%

Table 3. Number and Percent of Students Receiving IB Diplomas, by School and M-DCPS Overall, 2015-2016 and 2016-2017

School	Number of Students Eligible for IB Diplomas		Number of Students Receiving IB Diplomas		Percent of Students Receiving IB Diplomas	
	2015-2016	2016-2017	2015-2016	2016-2017	2015-2016	2016-2017
Coral Gables Senior	158	140	121	88	77%	63%
Coral Reef Senior	151	173	141	150	93%	87%
John A. Ferguson Senior	113	120	76	89	67%	74%
Miami Beach Senior	62	66	51	48	82%	73%
North Miami Senior	27	36	11	13	41%	36%
South Dade Senior	23	33	14	16	61%	49%
Total, All IB Schools	534	568	414	404	78%	71%

Summary

This Research Brief summarized the performance of M-DCPS students participating in the IB program. Six M-DCPS high schools offered the IB program and administered the corresponding IB examinations during the 2016-2017 school year: Coral Gables Senior, Coral Reef Senior, John A. Ferguson Senior, Miami Beach Senior, North Miami Senior, and South Dade Senior.

The number of IB examinations taken in M-DCPS increased by five percent from 2015-2016 to 2016-2017. Over 3,300 examinations were taken by M-DCPS students in 29 subject areas in 2016-2017. Sixty-five percent of IB examinations were taken by Hispanic students and 65% of examinations were taken by female students.

IB examinations taken by students classified as “Other” had the highest passing rates in 2016-2017, followed by examinations taken by White students, Hispanic students, and Black students. From 2015-2016 to 2016-2017, the percentage of examinations passed by White and Hispanic students remained stable, while the percentage of examinations passed by Black students and students classified as “Other” decreased.

Eighty-one percent of the examinations taken by the District’s female students and 78% of the examinations taken by its male students received passing scores in 2016-2017. The percentage of examinations passed by female students remained stable from 2015-2016 to 2016-2017 and decreased for male students.

Overall, 71% of M-DCPS’ eligible students received an IB diploma at the conclusion of the 2016-2017 school year. The percentage of eligible students earning an IB diploma decreased by seven percentage points from 2015-2016 to 2016-2017.