District of Columbia
Office of the State Superintendent of Education

DUAL LANGUAGE ROADMAP APPENDICES

Dec. 10, 2020

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Appendix A: Definitions

Dual Language Program Definitions

As the 2015 USED report[1] noted, there are some inconsistencies in terminology used to describe and discuss dual language programming, so this section provides key terminology and definitions. Dual language programs are a type of bilingual education in which students are taught literacy and academic content in English and a partner language. The Center for Applied Linguistics defines dual language programming as, "*[educational programming] in which the language goals are full bilingualism and biliteracy in English and a partner language, students study language arts and other academic content (math, science, social studies, arts) in both languages over the course of the program, the partner language is used for at least 50% of instruction at all grades, and the program lasts at least 5 years." [2]* The three pillars of DL programs are:

- Bilingualism and biliteracy, by developing proficiency and literacy in both English and a partner language)
- Academic content knowledge and achievement
- Cross-cultural competency, including enhanced understanding of linguistic and cultural diversity.[3]

In DL programs, at least 50 percent of instruction occurs in the partner language during elementary school. Dual language programs can extend through middle and high school by continuing instruction in the partner language in language arts and at least one more content area.

Over the past decade, the number of DL programs in the United States has increased, with 35 states and the DC offering DL programming[4] as of the 2016-17 school year. Related to the three pillars of DL programs, three complementary forces drive the increase in DL programming across the United States:

1. First, DL programming is associated with higher levels of academic achievement, particularly English language arts performance, among both ELs and native English speakers. Research shows that literacy in a student's native language facilitates language development and literacy in a second language.[5] DL programming has also been associated with a reduction in the achievement gap between ELs and their native English-speaking counterparts.[6]
2. Second, DL programs also support English language proficiency for ELs -- advancing English language acquisition while also giving students access to grade-level content aligned with state standards in two languages -- and represent one type of program that provides required

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[1] https://ncela.ed.gov/files/rcd/TO20_DualLanguageRpt_508.pdf

[2] Glossary of Terms Related to Dual Language/TWO in the United States. *Center for Applied Linguistics. Retrieved from:* http://www.cal.org/twi/glossary.htm

[3] Sugarman, J. (2018). A Matter of Design: English Learner Program Models in K-12 Education. *Migration Policy Institute. Retrieved from*: https://www.migrationpolicy.org/sites/default/files/publications/EL-Program-Models-Final.pdf;

[4] Office of Dual Language Acquisition (2019). Dual Language Learning Programs and English Learners. *Retrieved from:* https://ncela.ed.gov/files/fast_facts/19-0389_Del4.4_DualLanguagePrograms_122319_508.pdf

[5] Rumbaut, R. (2014). English Plus: Exploring the socioeconomic benefits of bilingualism in Southern California. In R.M. Callahan, & P.C. Gándara (Eds.), The bilingual advantage: Language, literacy, and the U.S. labor market. Multilingual Matters: Clevedon, U.K.

[6] Thomas, W. P., & Collier, V. (2002). A national study of school effectiveness for language minority students' long-term academic achievement: Final report, executive summary. Santa Cruz, CA, and Washington, DC: Center for Research on Education, Diversity & Excellence

educational services to English learners under Title III of the Elementary and Secondary Education Act of 1965 (ESEA), as amended by the Every Student Succeeds Act of 2015 (ESSA).[7]

3. Third, DL programming prepares youth for the global economy and the local economy in our diverse city through multilingual communication skills and cross-cultural competency.

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[7] The purpose of Title III is to help ensure that English learners (ELs) attain English language proficiency and meet state academic standards.

Table A1. Dual Language Program Models

Program Models	Language Delivery	Population of students	Goal of Program
Two-Way Immersion/Bilingual Programs	Instruction in both English and the partner language	Approximately equal numbers of: 1. Native English speakers 2. Native partner language speakers	Bilingualism; demonstrating proficiency in both English and the partner language
One-way developmental or maintenance bilingual programs	Instruction in both English and the partner language; teachers provide more instruction in English over time	English learners who speak a partner language	Bilingualism; demonstrating proficiency in both English and the partner language
One-way heritage language and language restoration programs	Instruction introduced in the partner language; teachers provide more instruction in English over time	Students who are dominant in English but whose parents, grandparents or other ancestors spoke a partner language	Bilingualism; increased exposure to the culture of individuals who speak the partner language
One-way world language or foreign language immersion programs	Instruction in both English and the partner language; typical for students in primary grades to have a higher proportion of instruction in the partner language with a more balanced split over time	Students whose native language is not the partner language	Bilingualism; demonstrating proficiency in both English and the partner language
World Language or Foreign Language non-immersion programs	Typically offered in grades 6-12 as single courses that students take in school. Vary in how instruction is delivered and can include a significant amount of instruction in English.	Students whose native language is not the world language	Proficiency in the partner language; preparation for future language study; exposure and appreciation of individuals who speak the world language
Transitional Bilingual Education	Students' native language is initially used for instruction but is gradually phased out, with the goal of transitioning to all English instruction	English learners	Proficiency in oral and written English

Program Models

Two-way immersion or bilingual immersion

Two-way immersion and bilingual immersion programs enroll students who are native English speakers along with native speakers of the partner language. Because students are integrated and receive instruction in both English and that partner language, both groups of students have the opportunity to serve in the role of 'language model' and 'language learner' at different times. The goal of two-way immersion programs is for all students to become bicultural, bilingual, and biliterate.

Two-way immersion programs ideally have a 1:1 ratio of native English speakers and native speakers of the partner language, though several states provide requirements or guidance indicating that variation in the proportion of partner-language speakers is acceptable for two-way immersion programs. For example, California, Indiana, and Utah provide requirements or guidance that one-third to two-thirds of students should be partner-language speakers, while Delaware requires that 30 to 60 percent of students be partner-language speakers. New York specifies that 50 to 70 percent of students should be partner-language speakers[8].

One-way developmental or maintenance bilingual

One-way dual language developmental or maintenance programs enroll students who are predominantly English learners who speak a partner language. In these programs, students are placed into classes based on their native language. Typically, instruction is provided in both English and the partner language, with the majority of instruction introduced in the partner language. Over time, the teacher provides more instruction in English, with the goal of students becoming bilingual and demonstrating proficiency in both English and the partner language over time. The goal of one-way immersion programs is for all students to become bicultural, bilingual, and biliterate. Unlike a transitional bilingual program (see below), developmental bilingual programs maintain instruction in both English and the partner language with at least fifty percent of instruction given in the native partner language.

One-way heritage language and language restoration

One-way heritage and language restoration programs primarily enroll students who are dominant in English but whose parents, grandparents, or other ancestors spoke the partner language. Instruction is provided in both English and the partner language, with instruction typically introduced in the partner language and teachers providing more instruction in English over time. As in other dual language program models, at least fifty percent of instruction is given in the partner language with the goal of students to become bicultural, bilingual, and biliterate. Heritage programs are intended to improve all domains of world language proficiency: listening, speaking, reading, and writing.

Multilingual Program Definitions

One-way world language or foreign language immersion

One-way world language or foreign language immersion programs primarily enroll students whose native language is not the partner language. Students' native language may be English or another world language. In these programs, students receive instruction in both English and the partner language. As

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[8] https://www.air.org/sites/default/files/downloads/report/Dual-Language-Education-Programs-Current-State-Policies-Feb-2017-rev.pdf

with other one-way immersion programs, the language allocation used by the program varies, however, it is typical for students in the primary grades to have a higher proportion of instruction in the partner language with a more balanced split between English and the partner language typical in later primary and secondary grades. The goal of one-way world language programs is for students to achieve bilingualism in English and the partner language.

Other Language Instruction Program Models

Advanced World Language or Foreign Language (non-Immersion)

World language or foreign language non-immersion programs, similar to world language immersion programs, typically enroll students whose native language is not the world language. In the United States, world language non-immersion programs are typically offered in grades 6 through 12 as single courses that students take in school. Several states include coursework in world languages as a graduation requirement, with states like Louisiana, Michigan, New York, and New Jersey requiring a specific number of world language units or demonstrated proficiency to meet graduation requirements, while other states -- for example, California, Georgia, Illinois, Maryland, Oregon, Rhode Island, and Texas -- include world language coursework as one of several options to meet broader requirements to demonstrate a 'well-rounded' education.[9] World language courses vary in how instruction is delivered and can include a significant amount of instruction in English. The goal of these programs is for students to achieve proficiency in the partner language and prepare students for future language study, rather than fluency or bilingualism. Foreign language programs also teach students to have appreciation for that particular culture and language and serve to promote international understanding and exchange.

International Baccalaureate Middle Years Programme

The International Baccalaureate (IB) Middle Years Programme (MYP) is an educational program targeted at students aged 11 to 16 that "encourages students to make practical connections between their studies and the real world".[10] Language acquisition is a compulsory component of the MYP, with schools required to provide "sustained language learning in at least two languages for each year of the MYP." In DC, there are two middle schools that offer the IB Middle Years Programme: Deal Middle School and Eliot Hine Middle School.

International Baccalaureate Diploma Programme

The International Baccalaureate Diploma Programme (DP) is an educational program for students aged 16 to 19 and was established to "provide students with a balanced education, facilitate geographic and cultural mobility, and to promote international understanding". Similar to the MYP, students are required to study at least two languages. Students can fulfill this requirement by either: 1) taking two courses in the Language and Literature subject group in two different languages; or 2) taking two courses in language acquisition focusing on modern languages, Latin, or classical Greek. In DC, there are two high schools that offer the IB Diploma Programme: Benjamin Banneker High School and Eastern High School.

Foreign Language in the Elementary School and Language through Content Programming

World language programs in elementary grades are less common, with some school districts offering Foreign Language in the Elementary School (FLES) programs, with additional programming in Language

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[9] https://c0arw235.caspio.com/dp/b7f930000e16e10a822c47b3baa2
[10] https://www.ibo.org/programmes/

through Content (LTC) programming available in some jurisdictions which give students the opportunity to learn a world language through integrated content. In elementary school, world language programs typically cover partner language content over a short period of time such as a single classroom period or before or after school in infrequent sessions over an extended period of time with the goal of helping students become familiar with one or more world languages. The goal of these programs is for students to learn basic words and phrases in the partner language, to foster continued interest in world languages, and help prepare students for future study of the world language.

Transitional Bilingual Education

Transitional bilingual education refers to a program for English learners in which the goal is proficiency in oral and written English. Typically, the students' native language is initially used for instruction but is gradually phased out, with the goal of transitioning to all-English instruction. The goal of transitional bilingual programs is for students to achieve proficiency in English. Unlike developmental bilingual programs, the goal of transitional bilingual programs is for students to transition away from the use of the partner language in school and does not have the goal of bilingualism and proficiency in the partner language.

Dual Language Program Types

Within different dual language program models, there is variation in how instruction is delivered to students. Program *types* refer to how the dual language program model is structured at the school-level.

Table A2. Dual Language Program Types

Program Types	
Whole School Program	All classrooms in the school provide dual language instruction. Individual classrooms may vary in the specific dual language program model or approaches used, but the entire student body participates in dual language programming.
Strand Program	A subset of a school's student population participates in dual language programming. **Whole Grade:** all students in a given grade participate in dual language instruction, however only certain grades at the school offer the dual language instruction. **Stream:** dual language instruction is provided across all grade levels served by the school, but only a subset of students in each grade level participates in dual language programming while other students in the same grade level do not participate.

Whole School Program

In a whole school program, all classrooms in the school provide dual language instruction. Individual classrooms may vary in the specific dual language program model or approaches used (see below), but the entire student body participates in dual language programming. Students who do not want to participate in dual language programming must attend another school.

Strand Program

Dual language strand programs are dual language programs that are offered to a subset of a school's student population. There are two main types of strand programs: whole grade and instructional stream. In whole grade programs, all students in a given grade participate in dual language instruction, however only certain grades at the school offer the dual language instruction. For example, an elementary school may provide dual language instruction to all Kindergarten and first grade students, however students in second through fifth grade would not receive dual language instruction. Similar to whole school programs, students who do not want to participate in dual language programming must enroll in a different school.

In instructional stream programs, dual language instruction is provided across all grade levels served by the school, but only a subset of students in each grade level participates in dual language programming while other students in the same grade level do not participate. Typically, students enroll in an instructional stream program by applying to the program either through a formal lottery process or by applying directly to the school after expressing interest in program participation. Older students (typically those students who wish to enter the program after first grade) must demonstrate proficiency in the partner language in order to enroll.

Heritage Program

To support heritage learning and ensure that all students with a specific language heritage have the opportunity for exposure to their heritage language, there are a broader range of program types offered than those typically available in a K12 public school setting. For example, some community-based schools that offer heritage language programs provide different learning formats such as weekend, after school, or summer school instruction. Heritage programs can also be associated with a religious or foreign organization. Study abroad programs for older students can be offered to provide students with an opportunity to get direct exposure to both the heritage culture and language. Students who participate in study abroad have greater self-confidence and deepen their cultural understanding.

Program Approaches

Within different dual language program models and types, there is also variation in how instruction is delivered to students at the classroom-level. Program *approaches* refer to dual language program instructional content and how content is delivered to students in the classroom.

Language of Instruction

The language of instruction is the language used to teach course curriculum to the students. In dual language programs, teachers typically provide instruction in both English and a partner language -- the world language other than English in which students are attempting to achieve literacy.

Language Allocation

Language allocation refers to the proportion of instructional time devoted to the partner language compared to English. It is typically represented as a fraction with the percentage of time devoted to the partner language given first and the percentage of time devoted to English given second. For example, a dual language program with a '80/20' language allocation provides approximately 80 percent of instruction in the partner language and twenty percent of instruction in English. The two most common language allocations for dual language programs are '90/10' and '50/50'.

Table A3. Dual Language Program Language Allocation

Language Allocation	The proportion of instructional time devoted to the partner language compared to English. It is often represented as the percentage of time devoted to the partner language given first and the percentage of time devoted to English given second.
90/10	Approximately 90% of instruction is given in the partner language. Typically, the 90% allocation to the partner language is reduced over time until instruction in English and the partner language are both provided approximately 50% of the time.
50/50	Instruction in both the partner language and English is given in equal proportions.
World Language Emphasis	Instructions is provided in English and the partner language, but there are not a sufficient number of content areas and/or courses offered in the partner language for students to receive at least 50% of instruction in the partner language. Language arts in the partner language is typically offered for an extended period of the day; with one or more additional content or elective courses offered in the partner language for a total of 25 to 40 percent of instruction in the partner language.

90/10

In a "90/10" allocation, the vast majority – approximately 90 percent - of instruction is given in the partner language. Typically, the 90 percent allocation to the partner language is reduced over time until instruction in English and the partner language are both provided approximately fifty percent of the time. This transition generally takes place after one or two years of 90 percent instruction in the partner language such that students experience a 50/50 language allocation by third grade. However, in some jurisdictions that offer dual language programming in pre-K, this transition may occur as early as first grade.

50/50

In a "50/50" allocation, instruction in both the partner language and English is given in equal proportions, though dual language programs differ in how instructional time is divided. Some programs divide instruction according to the subject taught, while other programs divide instructional time within each subject. In dividing instructional time, there are two common approaches. The first approach is to split the school day such that instruction occurs in either English or the partner language for the first half of the school day and instruction is provided in the other language for the second half of the school day. Some variations of this approach involve offering instruction in English or the partner language on alternating full days, rather than half days. The second approach is to provide instruction in each language based on the subject being taught. For example, all mathematics and social studies instruction may occur in the partner language while all English Language Arts and science instruction occur in English.

Language Allocation for Dual Language Programs in Middle School and High School

Most dual language programs are implemented in early childhood and elementary school grades. As the biliteracy trajectory progresses to upper grades, best research-based practices recommend for middle school and high school to provide language arts instruction in English and in the partner language. Additionally, it is required to deliver instruction in the partner language in another content area (e.g.,

Math, Science, History, or Biology). This content and language allocation plan will complement the dual language instruction delivered in grades Pre-K through 5.

World Language Emphasis

A "world language emphasis" is an instructional approach in which instruction is provided in English and the partner language, but there are not a sufficient number of content areas and/or courses offered in the partner language for students to receive at least fifty percent of instruction in the partner language. In these models, language arts in the partner language is typically offered for an extended period during the day (e.g., double-period); one or more content or elective courses may be offered in the partner language but only 25 to 40 percent of overall instruction is in the partner language.

Instructional Approach: Allocation of Academic Content

Among dual language programs, aside from the specific language allocation of the partner language compared to English, there is variation in the instructional approach adopted to deliver academic content in both English and the partner language. Some programs allocate instruction between the partner language and English according to content - for example, by offering mathematics and science in the partner language and English language arts in English - while other programs allocate instruction according to time irrespective of content - for example, by offering instruction in the partner language on alternating school days. It is worth noting that because the vast majority of instruction in a dual language program with a '90/10' language allocation is given in the partner language, all instructional time and academic content areas is in the partner language, so a specific 'instructional approach' is not applicable.

Table A4. Dual Language Program Instructional Approaches

Allocation of Academic Content	*The variation in the instructional approach adopted to deliver academic content in both English and the partner language*
Time Unit	Instruction is provided in both English and the partner language across all subject and content areas. Time is allocated between the partner language and English by specific time units.
Split Day	Instruction in the morning is provided in either English or the partner language, and instruction in the afternoon is provided in the other language.
Alternating Day	Instruction is provided in English and the partner language on alternating days.
Academic Content Area	Instruction is provided in English for certain academic content areas and in the partner language for other academic content areas.
Combination	Instruction is provided for some content areas in both English and the partner language while instruction for other content is provided in a single language, either English or the partner language.
Individualized	Instruction is provided in English and the partner language according to the specific courses the student enrolls in.

Bilingual Instruction by Time Unit

A "bilingual" instructional approach is one in which instruction is provided in both English and the partner language across all subject and content areas. Within a bilingual instructional approach, typically time is allocated between the partner language and English according to specific time units.

Split Day

A "split day" instructional approach is one in which instruction in the morning is provided in either English or the partner language and instruction in the afternoon is provided in the other language such that at least half of instruction is provided in the partner language.

Alternating Day

An "alternating day" instructional approach is one in which instruction is provided in English and the partner language on alternating days such that at least half of instruction is provided in the partner language.

Bilingual Instruction by Academic Content or Subject

A "split subject" instructional approach is one in which instruction is provided in English for certain academic content areas (e.g., English language arts and social studies) and in the partner language for other academic content areas (e.g., mathematics and science). Typically, core content areas (English language arts, partner language arts, mathematics, science, and social studies) are divided so that at least two core content areas are provided in the partner language. Some schools opt to provide instruction for only one core content area in the partner language and instead provide instruction for physical education, art, and other content areas in the partner language to meet the goal of providing fifty percent of instruction in the partner language.

Combination

A "combination" instructional approach is one in which instruction is provided for some content areas in both English and the partner language while instruction for other content areas is provided in a single language, either English or the partner language. For example, mathematics and language arts instruction may be provided in both English and the partner language while science instruction is provided only in the partner language and social studies instruction is provided only in English.

Individualized

An "individualized" instructional approach is one in which instruction is provided in English and the partner language according to the specific courses the student enrolls in. This approach is more typical of middle schools and high schools where students have more flexibility in choosing their schedule and schools may vary the language of instruction for specific courses by quarter, trimester, semester, or year.

Other Relevant Definitions

Bilingual/Multilingual: The ability to function in more than one language along a continuum of fluency in listening, reading, speaking, and writing.

DC Public Education: "DC Public Education" refers to DC Public Schools (DCPS) and all DC public charter schools.

Dual Language Program: A language education program in which students are taught academic content and literacy in two languages with the potential enrollment of English learners and monolingual English speakers. Dual language programs focus on developing bilingualism, biliteracy and cultural competency through standards-based instruction. Dual language program models include two-way immersion, one-way developmental and maintenance, and one-way heritage language and language restoration.

Content and Language Allocation: Schools implementing a dual language program define the content and language of instruction across grade-levels. Instructional time is distributed between English and the partner language from the first year of schooling. The models for content and language allocation can be 50-50 or 90-10 based on school's vision and staff dedicated to dual language instruction.

Bilingual Program: A language education program where all students speak the same native language. Students will be initially taught in two languages, as time progresses, the foreign language instruction will slowly phase out to receive instruction only in English. The most common variations of bilingual programs include transitional bilingual, including ESL taught through academic content and transitional bilingual, including ESL pullout.

Dual Language Roadmap: A guide for state and local governments, education agencies, and organizations to articulate a strategic vision, goal, objectives, and recommendations for multilingualism in preK-12 schools to meet demand equitably and cost-effectively.

Elementary and Secondary Education Act (ESEA): The nation's national education law which shows a longstanding commitment to equal opportunity for all students.

English Learners (ELs): Students who are in the process of learning to communicate fluently in English, who often come from non-English-speaking homes and backgrounds, and who typically require specialized or modified instruction in both the English language and in their academic courses.

Emergent Bilinguals: Students who are enrolled in a dual language program with nascent knowledge of linguistic systems and literacy in two languages. Through instruction in each targeted language, students develop grade-level listening, speaking, reding, and writing skills in two languages.

Every Student Succeeds Act (ESSA): ESSA was signed by President Obama on December 10, 2015. This bipartisan measure reauthorizes the 50-year-old Elementary and Secondary Education Act (ESEA), the nation's national education law and longstanding commitment to equal opportunity for all students. The new law builds on key areas of progress in recent years, made possible by the efforts of educators, communities, parents, and students across the country.

Immigrant Children: Individuals who: (a) are aged 3 through 21; (b) were not born in any U.S. state; and (c) have not been attending one or more schools in any one or more states for more than three full academic years.

Students Who Are At-Risk: This student group includes students who meet any of the following criteria at any point during the accountability year: 1. Eligible for the Supplemental Nutrition Assistance Program (SNAP), 2. Eligible for the Temporary Assistance for Needy Families (TANF) program, 3. Under the care of DC's Child and Family Services Agency (CFSA), 4. Verified as Homeless by the McKinney-Vento Homeless Assistance Act, and/or 5. High school student that is one year older or more than the expected age for the grade in which the student is enrolled.

Students with Disabilities: Students who have been evaluated and found eligible to receive specialized instruction and related services in school and have been provided a finalized individual education program (IEP) at any point during the Accountability Year are identified as Students with Disabilities.

Appendix B: Student Outcomes Associated with Dual Language Programming

A growing body of literature demonstrates a positive relationship between DL programming and student outcomes across a range of domains, including academic achievement, academic engagement and interest, cognitive stimulation, school satisfaction, student attendance, social emotional awareness, and decreased behavioral issues at school.[11] Enrollment in DL programs is associated with higher student achievement in both English and the partner language with additional evidence that DL program participation is associated with smaller achievement gaps among historically under-represented student populations. [12] Importantly, participation in DL programs has also been associated with long-term effects including higher rates of college attendance and increased job opportunities.[13] Because DL programs are associated with positive benefits for native English speakers and English learners alike, these programs can provide a unique opportunity to support students throughout the pre-K to 12 pipeline not only in meeting their goals of biliteracy, but also in promoting academic achievement, college and career readiness, and other life skills important to their future success in a global economy.

Academic Performance

Academic Achievement and Growth

Research over the past three decades has consistently linked enrollment in dual language programming with both increases in academic and proficiency in grade-level standards. A large body of research focuses

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[11] Thomas, W. P., & Collier, V. (2002). A national study of school effectiveness for language minority students' long-term academic achievement: Final report, executive summary. Santa Cruz, CA, and Washington, DC: Center for Research on Education, Diversity & Excellence

Bibler, A. (2020). Dual Language Education and Student Achievement. *Education Finance and Policy,* 1-57.

[12] Oliva-Olson, (2019). Dos Metodos: Two classroom language models in Head Start. Urban Institute, Washington, DC.

Thomas, W. P., & Collier, V. (2002). Op. Cit.

[13] Agirdag, O. (2014). The literal cost of language assimilation for the children of immigration: The effects of bilingualism on labor market outcomes. In R.M. Callahan, & P.C. Gándara (Eds.), The bilingual advantage: Language, literacy, and the U.S. labor market. Multilingual Matters: Clevedon, U.K

Callahan, R.M. & Gándara, P.C. (Eds.). (2014). The Bilingual Advantage: Language, Literacy, and the U.S. Labor Market. Multilingual Matters: Clevedon, U.K.

Collins, B.A., O'Connor, E.E., Suarez-Orozco, C., Nieto-Castañon, A., & Toppelberg, C.O. (2014) Dual language profiles of Latino children of immigrants: Stability and change over the early school years. Applied Psycholinguistics 35(3), 581-620. doi:http://dx.doi.org.libaccess.sjlibrary.org/10.1017/S0142716412000513

Rumbaut, R. (2014). English Plus: Exploring the socioeconomic benefits of bilingualism in Southern California. In R.M. Callahan, & P.C. Gándara (Eds.), The bilingual advantage: Language, literacy, and the U.S. labor market. Multilingual Matters: Clevedon, U.K.

specifically on the academic outcomes of English learners. However, several studies have also found evidence that dual language programming is associated with higher levels of academic achievement and growth among native English speakers.

A recent study conducted by RAND in Portland Public Schools was the largest random-assignment experimental study of dual language immersion education in the United States to-date.[14] The study replicated previous research finding gains in reading achievement on statewide assessments among students in dual language programs compared to students who were not enrolled in dual language programs. This study was important because it used lottery data – in which students were randomly assigned or not assigned to dual language programs – to implement a randomized experimental design to investigate the relationship between dual language program participation and academic achievement; this type of experimental design is considered the "gold standard" in research evaluating program effectiveness because it allows researchers to estimate effects *caused* by access to dual language programs that are separate from unobserved characteristics or preferences of students or families who choose dual language programming. The RAND study found that enrollment in dual language programming led to gains in reading achievement roughly equivalent to seven additional months of learning in Grade 5 and nine additional months of learning in Grade 8 as evidenced by students in dual language programs outperforming their peers on state accountability tests in reading.

Academic Outcomes among English Learners

Reviews of dual language research indicate extensive evidence of the benefit of DL programs to the academic performance and growth of English learners from diverse socioeconomic backgrounds.[15] Comparisons of student outcomes in schools with and without dual language programs further reveal that schools with dual language programs demonstrate higher performance among English learners compared to schools with dual language programs.[16] More recent research continues to replicate these findings, with evidence that English learners engaged in dual language programs reach English proficiency at higher rates by Grade 6 compared to students who did not attend dual language programs; this effect has been found to be most pronounced among students whose native language matched the partner language offered by the dual language program.[17] Another study found that English learners participating in dual language programs demonstrate gains in English language proficiency, with higher levels of literacy proficiency under the 90/10 program model. [18]

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[14] Steele, J., Slater, R., Zamarro, G., Miller, T., Li, J., Burkhauser, M. (2017. Dual-Language Immersion Programs Raise Student Achievement in English. *RAND Corportion. Retrieved from* https://www.rand.org/pubs/research_briefs/RB9903.html

[15] Collier, V.P. & Thomas, W.P (2004). The astounding effectiveness of dual language education for all. NABE *Journal of Research and Practice,* 2(1), 1-20.

Esposito & Baker-Ward. (2013). Dual-language education for low-income children: Preliminary evidence of benefits for executive function. *Bilingual Research Journal,* 36(3), 295-310.

Howard, Sugarman, & Christian. (2003). Trends in two-way immersion education. A review of the research. Institute for Education Sciences (ED). Washington, DC.

Thomas, W. P., & Collier, V. (2002). Op. Cit.

[16] Soltero, S.W. (2004). Dual Language: Teaching and Learning in Two Languages

[17] Steele, et al. (2017). Op Cit.

[18] Acosta, J., Williams, J., & Hunt, B. (2019). Dual language programs models and English language learners: An analysis of the literacy results from a 50/50 and a 90/10 model in two California schools. *Journal of Educational Issues,* 5(2), 1-12.

Closing the Achievement Gap: Gains for English Learners

With respect to closing achievement gaps, several research studies offer promising findings. Research has repeatedly found that English learners who engage in dual language programming demonstrate academic gains over time. For example, one study found that while third grade students participating in dual language programs performed at similar levels to their matched peers who did not participate in dual language programming, fourth grade students showed high levels of growth in their math achievement between third and fourth grade compared to their non-dual language counterparts.[19] Another study found that engagement in two-way immersion programs supported English learners in making gains toward grade level achievement or above between elementary school and middle school.[20] And, a third study revealed that students attending two-way immersion programs were successful in surpassing their native English-speaking peers by Grade 5.[21]

Gains for Native English Speakers

Academic gains have been observed among both English learners and native English speakers enrolled in dual language programming, though research investigating gains for native English-speaking students is less common. In a landmark study, Thomas and Collier[22] found that native English speakers in two-way immersion programs outperform their peers in mainstream classrooms. Other studies have similarly found that native English speakers enrolled in two-way immersion programs demonstrated achievement at or above grade level in both English and Spanish after both one year and three years of study [23] and that native English speakers in two-way immersion programs outperformed their peers enrolled in monolingual programs. [24]

Variation in Student Outcomes by DL Program Characteristics

There is some evidence that achievement outcomes vary according to the specific language allocation used in dual language programming. Most longitudinal evaluations of two-way models have found that both English learners and native English speakers experience the highest academic success in the 90/10 model; however, both models produce much higher academic achievement than traditional ESL programs or transitional bilingual education.[25] Further, a comprehensive review of 18 years of research on dual language programming found that 90/10 two-way immersion programs had the highest success rate in closing the achievement gap.[26] Still, the same study showed that 50/50 two-way immersion and one-way immersion models showed between a 75 and 100 percent success rate in closing the achievement gap between English learners and their native English-speaking counterparts by Grade 5. More recent research has yielded mixed findings in comparing dual language program model and language allocation. The RAND

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[19] Thomas & Collier (2012) Op.Cit.

[20] Genesee, Lindholm-Leary, Saunders & Christian (2005). English language learners in U.S. schools: An overview of research findings. *Journal of Education for Students Placed at Risk,* 10(4): 363-385.

[21] Gándara, P. (2015). Rethinking Bilingual Instruction. Educational Leadership, 72, 60-64.

[22] Thomas and Collier (2002). Op Cit.

[23] Pagan, C. R. (2005). English learners' academic achievement in a two-way versus a structured English immersion program [Abstract]. *Dissertation Abstracts International, A: The Humanities and Social Sciences, 66* (5), 1603-A-1604-A.

[24] Marian, V. & Shook, A. & Schroeder, S. (2013). Bilingual Two-Way Immersion Programs Benefit Academic Achievement. Bilingual research journal. 36. 10.1080/15235882.2013.818075.

[25] Thomas & Collier (2012). Dual Language Education for a Transformed World.

[26] Collier & Thomas (2004). Op. Cit.

study found gains across dual language program models with no statistical difference in gains between students engaged in one-way versus two-way program models.

Comparison to other World Language Instructional Models

Some studies have specifically compared the academic outcomes associated with dual language programming to outcomes associated with other types of world language instruction, including one-way transitional bilingual programs and ESL services. In comparing student outcomes among students enrolled in dual language programming with outcomes of students engaged in one-way transitional bilingual programs researchers in Massachusetts[27] found that third graders in dual language programs outperformed students enrolled in a more conventional bilingual education program in reading and mathematics in both Spanish and English.

Benefits of Bilingualism

Aside from the benefits specific to engagement in dual language programming, research has also found numerous positive outcomes associated with bilingualism. Because one of the major goals of dual language programming is for students to become bilingual, it is important to note that efforts to promote bilingualism among students can have far-reaching positive impacts on many dimensions of students' lives. For example, research has found that bilingual students excel on word-reading and spelling tasks, problem-solving, attentional control, grammatical judgement and correction tasks, and word recognition compared to students who had not received bilingual instruction[28] [29] [30]

The benefits of bilingualism have also been shown to extend into later life. For example, bilingual adults have been shown to respond more rapidly in conditions that place demand on working memory compared to their monolingual counterparts[31], and bilingualism has been associated with episodic memory and semantic memory[32], both suggesting that bilingualism can help to offset age-related losses in specific executive processes.

Future Directions for Research on EL Student Outcomes

Tracking Outcomes for English Learners

Currently, approximately 10.1 percent of public school students in the U.S. are English learners, with some states such as California, Nevada, New Mexico, and Texas serving more than 15 percent English learners in their public schools.[33] By 2025, approximately one in four public school students is expected to by an English learner[34], emphasizing a growing demand for schools to implement or expand educational

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[27] Christian, D. (1994). Two-way bilingual education: students learning through two languages. Washington DC: Center for Applied Linguistics.

[28] D'Angiulli, A., Siegel, L. S., & Serra, E. (2001). The development of reading in English and Italian in bilingual children. *Applied Psycholinguistics, 22*(4), 479-507.

[29] Bialystok, E. (1999). Cognitive complexity and attentional control in the bilingual mind. Child Development, 70(3), 636–644.

[30] Demont, E. (2001). Contribution of early 2nd-language learning to the development of linguistic awareness and learning to read. *International Journal of Psychology, 36*(4), 274-285.

[31] Bialystok, E., Craik, F. I. M., Klein, R., & Viswanathan, M. (2004). Bilingualism, aging, and cognitive control: Evidence from the Simon task. *Psychology and Aging*, 19(2), 290-303.

[32] Kormi-Nouri, R., Moniri, S., & Nilsson, L. (2003). Episodic and semantic memory in bilingual and monolingual children. *Scandinavian Journal of Psychology,* 44(1), 47-54.

[33] National Center for Education Statistics (2017). English Leaners in Public Schools. *Retrieved from:* https://nces.ed.gov/programs/coe/indicator_cgf.asp

[34] National Education Association. English Language Learners Face Unique Challenges. *Retrieved from:* http://www.nea.org/home/32409.htm

programming that can meet the needs of this historically underserved student population. Under Title VI of the Civil Rights Act of 1964 and the Equal Educational Opportunities Act of 1974, public schools must ensure that English learners can participate meaningfully and equally in educational programs and these laws are enforced by the Office of Civil Rights within the United States Department of Justice.[35]

Federal requirements concerning language acquisition for English learners center on ensuring that states provide the necessary educational supports to ensure that English learners gain English language proficiency, with less guidance on whether these supports should take place in the context of DL programming or another educational model. Dual language programs promote additive bilingualism -- which results from a DL program in which students maintain their first language and acquire their second language[36]. The DL model of acquiring both English language proficiency and partner language proficiency, often in contexts where English learners acquire English language proficiency alongside English-speaking students, is different from English learner services in two important ways. First, the primary goal of English learner services is proficiency and literacy in English. Second, English learner services are federally required under Title III, whereas DL programs are an optional educational program that can help students achieve bilingualism – and English language proficiency by extension.

The Every Student Succeeds Act (ESSA) requires that all states include a measure of progress in English language proficiency in their state accountability systems as well as measures of academic performance and progress for English learners with respect to academic performance, academic growth, and high school graduation. ESSA additionally requires that states incorporate these measures into each school's rating on the state report card and that the report card provides transparency into the performance and progress of English learners to the public.[37] With these newer federal requirements concerning the public reporting of outcomes for English learners, additional research examining academic achievement and growth outcomes among English learners – and associated examination of the relative impact of different types of English language services for English learners – should increasingly be possible.

Multilingualism and the Global Economy
In addition to the importance of DL programming to student academic achievement and the provision of educational services to English learners, national workforce groups have increasingly emphasized the importance of DL programming more broadly for all students, with the National Association of Colleges and Employers (NACE) identifying Global/Intercultural fluency -- students' ability to demonstrate "openness, inclusiveness, sensitivity, and the ability to interact respectfully with all people and understand individuals' differences"[38] – as a key career readiness competency. Further, the Partnership for 21st

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[35] U.S. Department of Justice, U.S. Department of Education. (2015). Ensuring English Learner Students Can Participate Meaningfully and Equally in Educational Programs. *Retrieved from:* https://www2.ed.gov/about/offices/list/ocr/docs/dcl-factsheet-el-students-201501.pdf

[36] Roberts, C. A. (1995). Bilingual education program models: A framework for understanding. *Bilingual research journal*, *19*(3-4), 369-378.

[37] EdTrust, (2014). Setting New Accountability for English-Learner Outcomes in ESSA Plans. *Retrieved from:* https://edtrust.org/wp-content/uploads/2014/09/Accountability-for-English-learners-under-ESSA.pdf

[38] National Association of Colleges and Employers (NACE). (2020). Career Readiness Defined. *Retrieved from:* https://www.naceweb.org/career-readiness/competencies/career-readiness-defined/

Century Learning[39] identifies "world languages"[40] as a key subject essential to student success, emphasizing the importance of Global Awareness as one of six interdisciplinary themes that should be incorporated into curriculum. Global awareness includes the capacity to "learn from and [work] collaboratively with individuals representing diverse culture, religions, and lifestyles" in addition to the ability to "understand other nations and culture, including the use of non-English languages". Given that DC is a multilingual city, students who plan to pursue employment or post-secondary education in DC after graduation may particularly benefit from DL programming.

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[39] Battelle for Kids (2019). Framework for 21st Century Learning. *Retrieved from:*
http://static.battelleforkids.org/documents/p21/P21_Framework_Brief.pdf
[40] The term "foreign language" continues to be widely used in the United States to refer to languages other than English. Given that there are a broad array of languages including indigenous American languages, languages spoken by other communities within the United States, as well as unspoken languages such as American Sign Language, the term "world languages" is used throughout this report instead of the term "foreign languages."

Appendix C: District of Columbia Dual Language Program Detail

Table C1. DC Schools Offering Immersion Dual Language Programs in the 2019-20 School Year

District of Columbia Schools	Sector	Grades Served	Program Model	Program Type	Partner Language	Language Allocation	Content Allocation
Elementary Schools							
Bancroft Elementary	DCPS	P3-P4	Two-way Developmental	Whole School	Spanish	90/10	
		K-5				50/50	Split Time (Daily)
Bruce Monroe Elementary		P3-K	Two-way Developmental	Whole School	Spanish	90/10	
		1-5				50/50	Split Subject
Cleveland Elementary		P3-K	Two-Way Immersion	Strand	Spanish	90/10	
		1-5				50/50	Split Subject
Houston Elementary		P3-1	One-Way World Language	Whole Grade	Spanish	50/50	Split Subject
		2-5	*Transitioning to whole school dual language; Grade 2 will be dual language in 2020-21*				
Marie Reed Elementary		P3-P4	Two-way Developmental	Strand	Spanish	90/10	
		K				80/20	Split Time (Daily)
		1-5				50/50	Split Subject
Oyster Adams Elementary – Oyster Campus		P4-K	Two-way Developmental	Whole School	Spanish	90/10	
		1-3				50/50	Split Subject
Powell Elementary		P3-P4	World Language Emphasis	Whole Grade	Spanish	40/60	Split Subject
		K-2	Two-way Developmental			50/50	
		3-5		Strand[1]		50/50	
Tyler Elementary		P3-P4	One-Way World Language	Strand	Spanish	90/10	
		K-2				50/50	Alternating Day
		3-5				50/50	Split Subject
Briya PCS	Charter	P3-P4	One-way Developmental	Whole Grade	Spanish	50/50	Split Time (Daily)
DC Bilingual PCS		P3-K	One-way Developmental	Whole School	Spanish	90/10	
		1-5				50/50	Split Time (Daily)
Elise Whitlow Stokes PCS – Brookland Campus		P3-P4	Two-Way Immersion	Whole School	French, Spanish	90/10	
		K-5				50/50	Split Time (Daily)

District of Columbia Schools	Sector	Grades Served	Program Model	Program Type	Partner Language	Language Allocation	Content Allocation
Elise Whitlow Stokes PCS – East End Campus	Charter	P3-P4	One-Way World Language	Whole School	French, Spanish	90/10	
		K-1				50/50	Split Time (Daily)
		2-5	*Growing school, adding one grade per year; Grade 2 will be dual language in 2020-21				
Latin American Montessori PCS[2]		P3-K	Two-Way Immersion	Whole School	Spanish	90/10	
		1-3				50/50	Split Time (Daily)
		4-5					Split Subject
Mary McLeod Bethune PCS		P3-K	Two-Way World Language	Whole Grade	Spanish	90/10	
		1-2				50/50	Split Time (Daily)
		3-8	*Dual Language program only offered to grades P3-2; not transitioning additional grades				
Mundo Verde PCS – P Street Campus		P3-K	Two-Way Immersion	Whole School	Spanish	90/10	
		1-5				50/50	Split Time (Daily)
Mundo Verde PCS – 8th Street Campus		P3-K	Two-Way Immersion	Whole School	Spanish	90/10	
		1-2	*Growing school, adding one grade per year; Grade 1 will be dual language in 2020-21				
Sela PCS		P3-P4	One-Way World Language	Whole Grade	Hebrew	50/50	Split Time (Daily)
		K-5	World Language Emphasis			25/75	Split Subject
Washington Yu Ying PCS		P3-P4	One-Way World Language	Whole School	Mandarin	90/10	
		K-5				50/50	Alternating Day
Middle Schools							
MacFarland Middle School	DCPS	6-8	Two-way Developmental	Strand	Spanish	50/50	Split Subject
Columbia Heights Educational Campus		6-12	Two-Way Immersion	Whole Grade	Spanish	50/50	Split Subject
Oyster Adams Elementary - Adams Campus		4-8	Two-way Developmental	Whole School	Spanish	50/50	Split Subject
DC International PCS	Charter	6-12	World Language Emphasis	Whole School	French, Mandarin, Spanish	25/75	Individualized

District of Columbia Schools	Sector	Grades Served	Program Model	Program Type	Partner Language	Language Allocation	Content Allocation
High Schools							
Columbia Heights Educational Campus	DCPS	6-12	Two-Way Immersion	Strand	Spanish	50/50	Individualized
Roosevelt High School		9-12	Two-Way Immersion	Strand	Spanish	50/50	Individualized
DC International PCS	Charter	6-12	World Language Emphasis	Whole School	French, Mandarin, Spanish	25/75	Individualized

[1]Powell Elementary School is transitioning from a strand program to a whole school program one grade per year; Grade 3 transitioned to a whole grade dual language program in the 2020-21 school year

[2]Latin American Montessori Bilingual has three campuses that serve elementary school dual language students; however, it is recognized as a single school by OSSE.

Note: Schools' program model is derived from students' native language as reported to OSSE by schools in the 2018-19 school year. Students' native language was not available for the 2019-20 school year.

Table C2. DC Schools Offering Non-Immersion Dual Language Programs in the 2019-20 School Year

District of Columbia Schools	Sector	Grades Served	Program Model	Program Type	Partner Language	Language Allocation	Content Allocation
Middle Schools							
Deal Middle School	DCPS	6-8	Adv. World Language	n/a	n/a	n/a	Individualized
Eliot Hine Middle School	DCPS	6-8	Adv. World Language	n/a	n/a	n/a	Individualized
High Schools							
Benjamin Banneker	DCPS	9-12	Adv. World Language	n/a	n/a	n/a	Individualized
Eastern High School	DCPS	9-12	Adv. World Language	n/a	n/a	n/a	Individualized
Adult Schools							
Briya PCS	Charter	Adult	Transitional Bilingual	n/a	n/a	n/a	Split Time (Daily)
Carlos Rosario PCS		Adult	Transitional Bilingual	n/a	n/a	n/a	Split Time (Daily)
Next Step PCS		Adult	Transitional Bilingual	n/a	n/a	n/a	Split Time (Daily)

Table C3. DC Schools Offering Dual Language Instruction, by School Year and Dual Language Grades Offered

Campus	Since 2015-16	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Bancroft Elementary	Converted		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Bruce Monroe Elementary	Converted		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Cleveland Elementary		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Houston Elementary	New Program		P3	P3-P4	P3-1	P3-2	P3-3	P3-4	P3-5	P3-5	P3-5
Marie Reed Elementary		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Oyster Adams Elementary		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Powell Elementary	New Grades	P3-P4 K-5	P3-P4 K-5	P3-P4 K-5	P3-2 3-5	P3-2 3-5	P3-3 4-5				
Tyler Elementary		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Briya PCS		P3-P4	P3-P4	P3-P4	P3-P4	P3-P4	P3-P4	P3-P4	P3-P4	P3-P4	P3-P4
DC Bilingual PCS		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Elise Whitlow Stokes PCS – Brookland Campus		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Elise Whitlow Stokes PCS – East End Campus	New Program				P3-K	P3-1	P3-2	P3-3	P3-4	P3-5	P3-5
Latin American Montessori PCS*		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Mary McLeod Bethune PCS		P3-2	P3-2	P3-2	P3-2	P3-2	P3-2	P3-2	P3-2	P3-2	P3-2
Mundo Verde PCS – P Street Campus	New Grades	P3-4	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Mundo Verde PCS – 8th Street Campus	New Program					P3-K	P3-1	P3-2	P3-3	P3-4	P3-5
Sela PCS	New Grades	P3-2	P3-3	P3-4	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
Washington Yu Ying PCS		P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5	P3-5
MacFarland Middle School	New Program		6	6-7	6-8	6-8	6-8	6-8	6-8	6-8	6-8
Columbia Heights EC		6-12	6-12	6-12	6-12	6-12	6-12	6-12	6-12	6-12	6-12
District of Columbia International PCS	New Grades	6-8	6-9	6-10	6-11	6-12	6-12	6-12	6-12	6-12	6-12
Roosevelt High School	Converted		9	9-10	9-11	9-12	9-12	9-12	9-12	9-12	9-12

Note: Red grade bands indicate schools that were growing in a given year; Blue grade bands indicate schools that offer a Strand dual language program for grades specified

Table C4. 2019-20 Number of LEAs, Schools, and Campuses with Grades Pre-K to 12 DL Programs

Grades Served	Number of LEAs	Number of Schools	Number of Campuses
Pre-K to 5	9 (8 PCS; DCPS)	17 (10 PCS; 7 DCPS)	20 (13 PCS; 7 DCPS)
Pre-K to 8	1 (DCPS)	1 (1 DCPS)	2 (2 DCPS)
6 to 8	1 (DCPS)	1 (1 DCPS)	1 (1 DCPS)
9 to 12	1 (DCPS)	1 (1 DCPS)	1 (1 DCPS)
6 to 12	2 (1 PCS; 1 DCPS)	2 (1 PCS; 1 DCPS)	2 (1 PCS; 1 DCPS)
Total	10	22	26

Appendix D: Dual Language Program Enrollment

This report was prepared from March-September 2020, before the implementation of OSSE's current Student Privacy and Data Suppression policy

Enrollment in DL versus Non-DL Programs: Logistic Regression Analysis

Table D1. Factors Associated with Pre-K to 12 Student Enrollment in DL v. Non-DL Programs

Enrollment in DL Programs	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.374	.029	14.87	.000	1.317	1.432	***
2017-18	1.525	.032	20.20	.000	1.464	1.589	***
2018-19	1.709	.035	26.12	.000	1.642	1.779	***
2019-20	1.822	.037	29.47	.000	1.75	1.896	***
Grade 6 to 12	**.415**	.007	-54.38	.000	.403	.429	***
At-Risk Status	**.584**	.009	-36.18	.000	.567	.601	***
SWD Status	.99	.018	-0.51	.607	.955	1.027	
EL Status	**1.229**	.021	11.86	.000	1.188	1.271	***
Black/African-American	**.414**	.008	-46.39	.000	.399	.430	***
Latinx/Hispanic of any race	**2.603**	.051	49.25	.000	2.506	2.704	***
Two or more races	**1.676**	.050	17.30	.000	1.581	1.777	***
Not Black, Latinx, or Two or more races	1.02	.039	0.51	.608	.946	1.099	
Male	.977	.012	-1.91	.057	.954	1.001	
Residence and School Same Ward	**.525**	.007	-50.47	.000	.512	.538	***
STAR 4+	**2.365**	.032	62.78	.000	2.303	2.430	***
Selective School	**4.567**	.107	64.98	.000	4.363	4.781	***
Constant	.083	.002	-94.83	.000	.079	.088	***
Pseudo r-squared		0.189	Number of obs		418945		
Chi-square		44849.069	Prob > chi2		0.000		

*** p<.001, ** p<.01, * p<.05*

Table D2. Factors Associated with Grade Pre-K to 5 Student Enrollment in DL v. Non-DL Programs

Enrollment in DL Programs	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.454	.036	15.01	.000	1.385	1.527	***
2017-18	1.507	.037	16.63	.000	1.436	1.582	***
2018-19	1.577	.039	18.62	.000	1.503	1.655	***
2019-20	1.620	.040	19.77	.000	1.544	1.699	***
At-Risk Status	**.538**	.010	-33.15	.000	.518	.558	***
SWD Status	**.885**	.020	-5.36	.000	.847	.926	***
EL Status	**1.331**	.028	13.64	.000	1.278	1.387	***
Black/African-American	**.394**	.009	-42.19	.000	.378	.412	***
Latinx/Hispanic of any race	**2.053**	.047	31.21	.000	1.962	2.147	***
Two or more races	**1.641**	.054	14.99	.000	1.538	1.751	***
Not Black, Latinx, or Two or more races	.991	.044	-0.19	.846	.909	1.082	
Male	**.963**	.014	-2.59	.010	.935	.991	*
Residence and School Same	**.398**	.006	-61.60	.000	.386	.409	***

Ward							
STAR 4+	**3.152**	.054	66.69	.000	3.047	3.260	***
Constant	.092	.003	-79.65	.000	.087	.098	***
Pseudo r-squared		0.187	Number of obs			252630	
Chi-square		29787.246	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05

Table D3. Factors Associated with Grade 6 to 12 Student Enrollment in DL v Non-DL Programs

Enrollment in DL Programs	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.233	.053	4.91	.000	1.134	1.34	***
2017-18	1.651	.067	12.40	.000	1.525	1.787	***
2018-19	2.17	.085	19.90	.000	2.011	2.342	***
2019-20	2.465	.094	23.56	.000	2.287	2.658	***
At-Risk Status	**.655**	.017	-16.76	.000	.623	.688	***
SWD Status	**1.229**	.041	6.23	.000	1.152	1.312	***
EL Status	**1.105**	.036	3.09	.002	1.037	1.177	***
Black/African-American	**.611**	.026	-11.53	.000	.562	.665	***
Latinx/Hispanic of any race	**4.639**	.198	35.91	.000	4.267	5.045	***
Two or more races	**1.829**	.138	7.97	.000	1.577	2.121	***
Not Black, Latinx, or Two or more races	**1.357**	.105	3.93	.000	1.165	1.580	***
Male	.986	.022	-0.60	.547	.944	1.031	
Residence and School Same Ward	**.955**	.023	-1.91	.057	.91	1.001	
STAR 4+	**1.726**	.045	20.94	.000	1.64	1.817	***
Selective School	**5.362**	.130	69.06	.000	5.113	5.624	***
Constant	.018	.001	-70.91	.000	.016	.020	***
Pseudo r-squared		0.213	Number of obs			166315	
Chi-square		16087.145	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05

Enrollment in DL versus Non-DL Programs: Student Group

Table D4. 2019-20: DL Versus non-DL Enrollees, by Student Group

Student Group	Number All Students	% of All	Number DL Students	% of DL	Number Non-DL Students	% of Non-DL	Likelihood of Enrolling in DL Programs
All Students	88,862		8,938		79,924		
English learners	10,997	12%	2,478	28%	8,519	11%	**3.2x more likely**
Students with disabilities	13,816	16%	1,086	12%	12,730	16%	**1.4x less likely**
Students who are at-risk	39,499	44%	1,897	21%	37,602	47%	**3.3x less likely**
English learners with disabilities	2,051	2%	491	5%	1,560	2%	**2.4x more likely**
English learners without disabilities	8,946	10%	1,987	22%	6,959	9%	**2.2x more likely**
Non-ELs with disabilities	11,765	13%	595	7%	11,070	14%	**2.0x less likely**
Non-ELs without disabilities	66,100	74%	5,865	66%	60,235	75%	**1.1x less likely**
English learners who are at-risk	3,715	4%	681	8%	3,034	4%	**2.1x more likely**
English learners who are not at-risk	7,282	8%	1,797	20%	5,485	7%	**3.4x more likely**
Non-ELs who are at-risk	35,784	40%	1,216	13%	34,568	43%	**4.8x less likely**
Non-ELs who are not at-risk	42,081	47%	5,244	59%	36,837	46%	**1.6x more likely**
Students with disabilities who are at-risk	7,814	9%	358	4%	7,456	9%	**2.2x less likely**
Students with disabilities who are not at-risk	6,002	7%	728	8%	5,274	7%	**1.2x more likely**
Students without disabilities who are at-risk	31,685	36%	1,539	17%	30,146	38%	**2.1x less likely**
Students without disabilities who are not at-risk	43,361	49%	6,313	71%	37,048	46%	**1.4x more likely**
Males	88,854	51%	4,434	50%	40,577	51%	--
American Indian/Alaskan Native	151	<1%	DS	DS	DS	DS	--
Asian	1,387	2%	215	2%	1,172	1%	**1.7x more likely**
Black/African American	58,357	66%	2,422	27%	55,935	70%	**6.3x less likely**
Hispanic/Latinx of any race	15,249	17%	3,958	**44%**	11,291	**14%**	**4.8x more likely**
Native Hawaiian/Other Pacific Islander	85	<1%	n<10	**DS**	DS	**DS**	--
Two or More Races	2,418	3%	541	**6%**	1,877	**2%**	**2.7x more likely**
White	11,215	13%	1,782	**20%**	9,433	**12%**	**1.9x more likely**

Table D5. 2019-20: Pre-K to 12 Students Enrolled in DL Programs, by Sector and Student Group

Student Group	Total Students	DL Students	Total % DL	PCS Students	PCS DL Students	PCS % DL	DCPS Students	DCPS DL Students	DCPS % DL
All Students	88,862	8,938	10%	38,345	4,715	12%	50,517	4,223	8%
English learners	10,997	2,478	23%	3,036	821	27%	7,961	1,657	21%
Students with disabilities	13,816	1,069	8%	5,953	569	10%	7,863	517	6%
Students who are at-risk	39,499	1,897	5%	17,629	680	4%	21,870	1,187	5%
American Indian/Alaskan Native	151	DS	DS	DS	DS	DS	DS	DS	DS
Asian	1,387	215	16%	372	140	38%	1,105	75	7%
Black/African American	58,357	2,422	4%	29,111	1,537	5%	29,246	865	3%
Hispanic/Latinx of any race	15,249	3,958	26%	4,584	1,429	31%	10,665	2,529	23%
Native Hawaiian/Other Pacific Islander	85	n<10	DS	DS	DS	DS	DS	DS	DS
Two or More Races	2,418	541	22%	1,083	426	39%	1,335	115	9%
White	11,215	1,782	16%	3,074	1,169	38%	8,141	613	8%

English Learners

In the 2019-20 school year, 23 percent of all English learners enrolled in DL programs, compared to 10 percent of the overall student population. English learners represent 12 percent of the overall student population, but 28 percent of the students enrolled in DL programs. The higher rate of enrollment among English learners in DL programs has remained relatively consistent over the past five school years, with a slight peak observed in the 2017-18 school year when 32 percent of students enrolled in DL programs identified as English learners. There is a relatively consistent difference between the proportion of English learners who are enrolled in DL programs compared to non-DL programs across grade bands suggesting that this trend is consistent throughout the educational pipeline in DC. The lower proportion of DL enrollees in middle and high school who are English learners compared to DL enrollees in elementary school may be due to the fact that English learners are expected to attain English language proficiency after five to six years of instruction – meaning that students who are English learners in elementary school may exit EL status by fourth or fifth grade.

Figure D1. Proportion of English Learners in DL versus non-DL Enrollees, by School Year
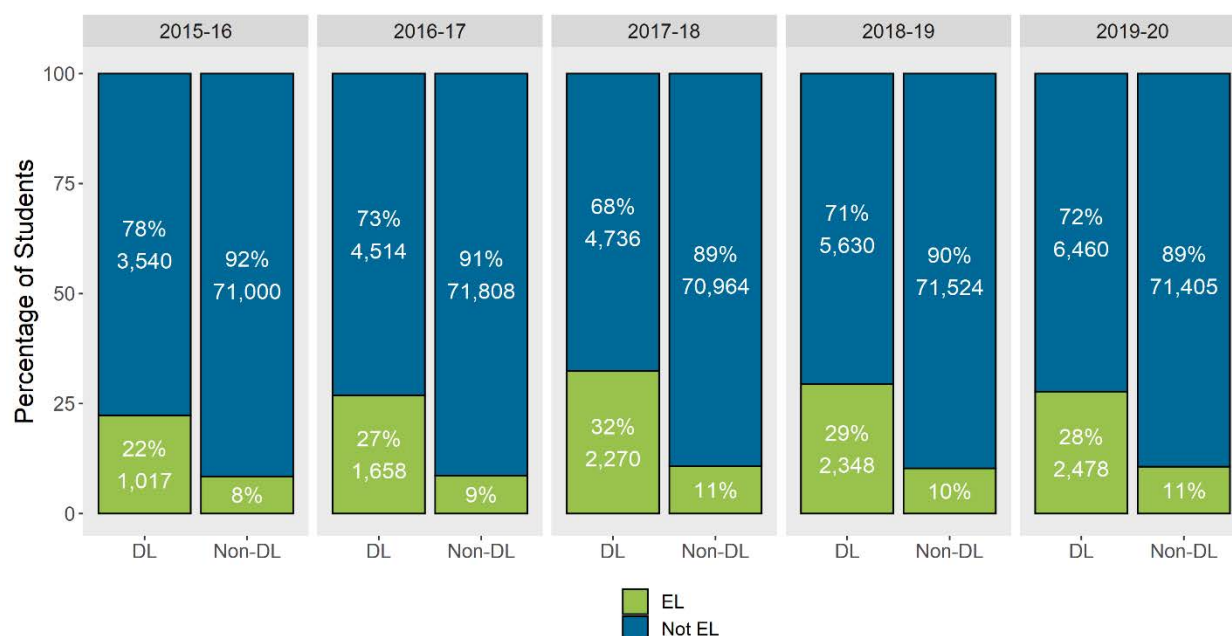
Figure D2. 2019-20: Proportion of English Learners in DL versus non-DL Enrollees, by Grade Band
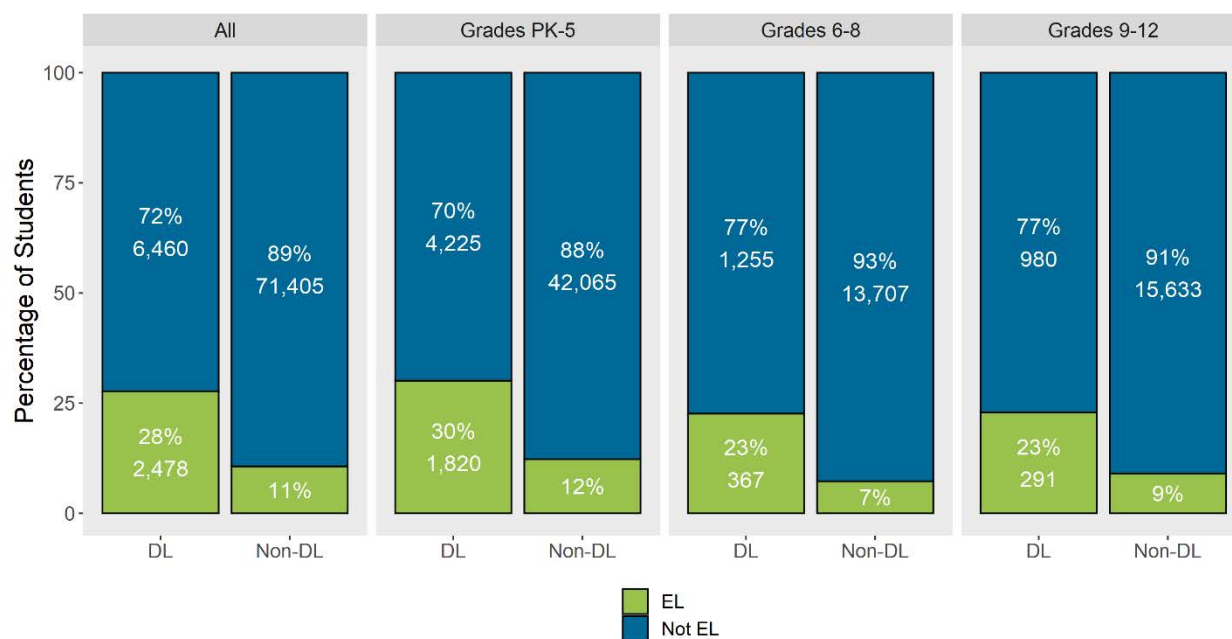
Figure D1 shows the proportion of English learners in each ward who enroll in DL programs versus non-DL programs. Across all wards, English learners represent a higher proportion of students enrolled in DL programs than non-DL programs. Across all wards – except Ward 4 -- English learners represent a relatively higher proportion of DL versus non-DL enrollees. For example, although English learners represent only one percent (n=170) of non-DL students living in Ward 8, they represent nine percent (n= 36) of DL students living in Ward 8.

Figure D3. 2019-20: Proportion of English Learners in DL versus non-DL Enrollees, by Ward of Residence
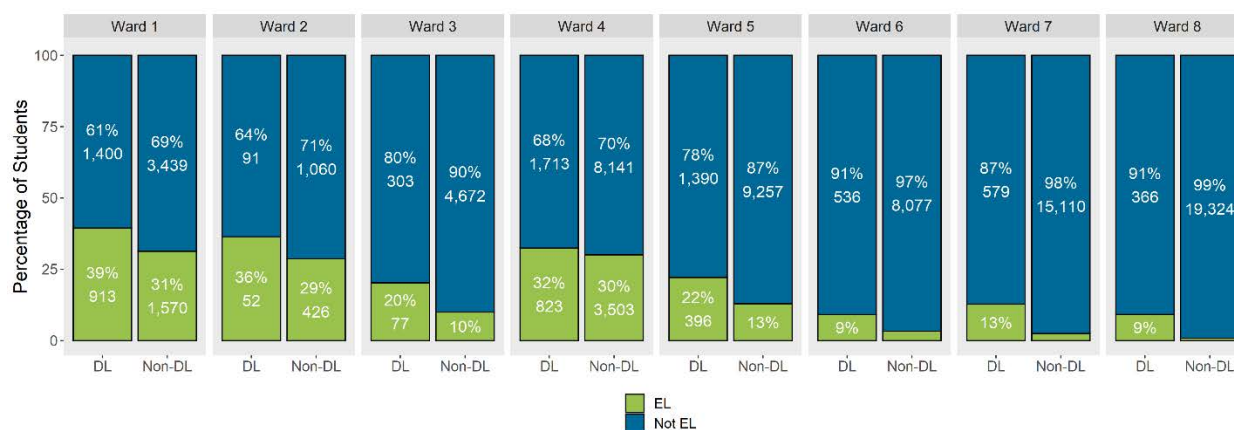
Students with Disabilities

In the 2019-20 school year, 8 percent of students with disabilities enroll in DL programs, compared to 10 percent of the overall student population. Comparing enrollments in DL versus non-DL programs, there are proportionately fewer students with disabilities enrolled in DL programs compared to non-DL programs, however differences in the percentage of students with disabilities enrolled in DL programs compared with non-DL programs are relatively small and consistent over time. (**Figure D4**). For example, in the 2019-20 school year, approximately 16 percent of the overall student population were identified as students with disabilities while only 12 percent of students enrolled in DL programs were identified as students with disabilities.

Figure D4. Proportion of Students with Disabilities in DL versus non-DL Enrollees, by School Year
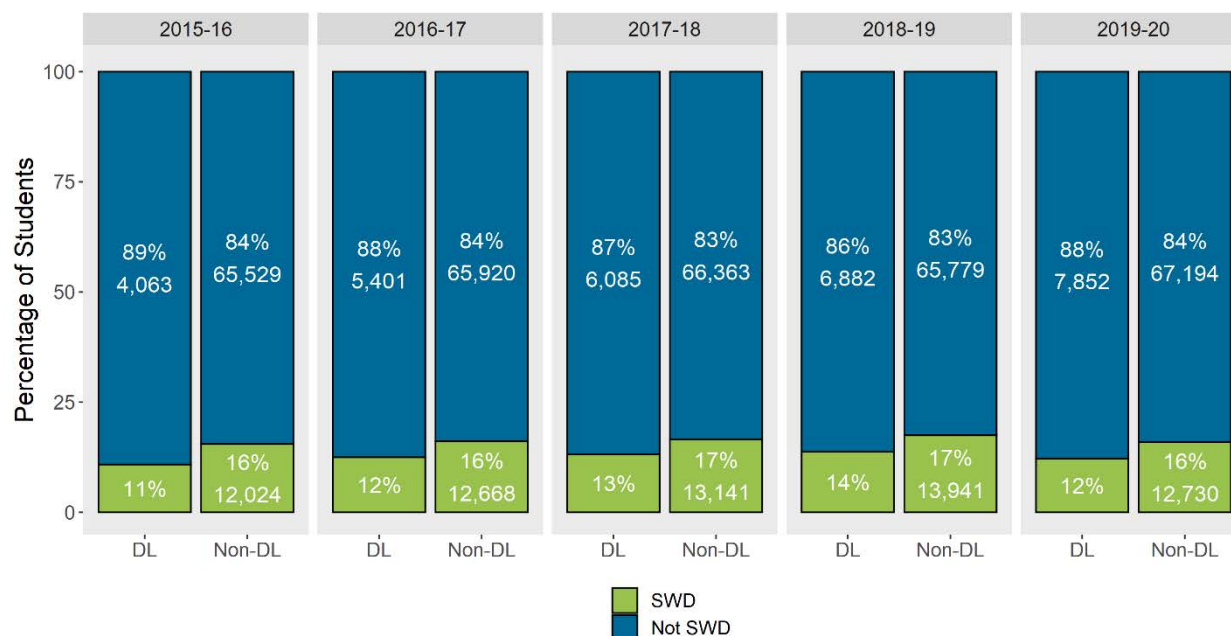
In the 2019-20 school year, the difference in the relative proportion of students with disabilities enrolled in DL programs compared to non-DL programs was slightly larger among high school students compared

to students in grades pre-K to 5 and grades 6 to 8. A slightly higher proportion of middle school students with disabilities enroll in both DL and non-DL programs compared to elementary school, with a slight increase in observed discrepancies in the proportion of students with disabilities enrolled in DL versus non-DL programs compared to elementary school.

Figure D5. 2019-20: Proportion of Students with Disabilities in DL versus non-DL Enrollees, by Grade Band
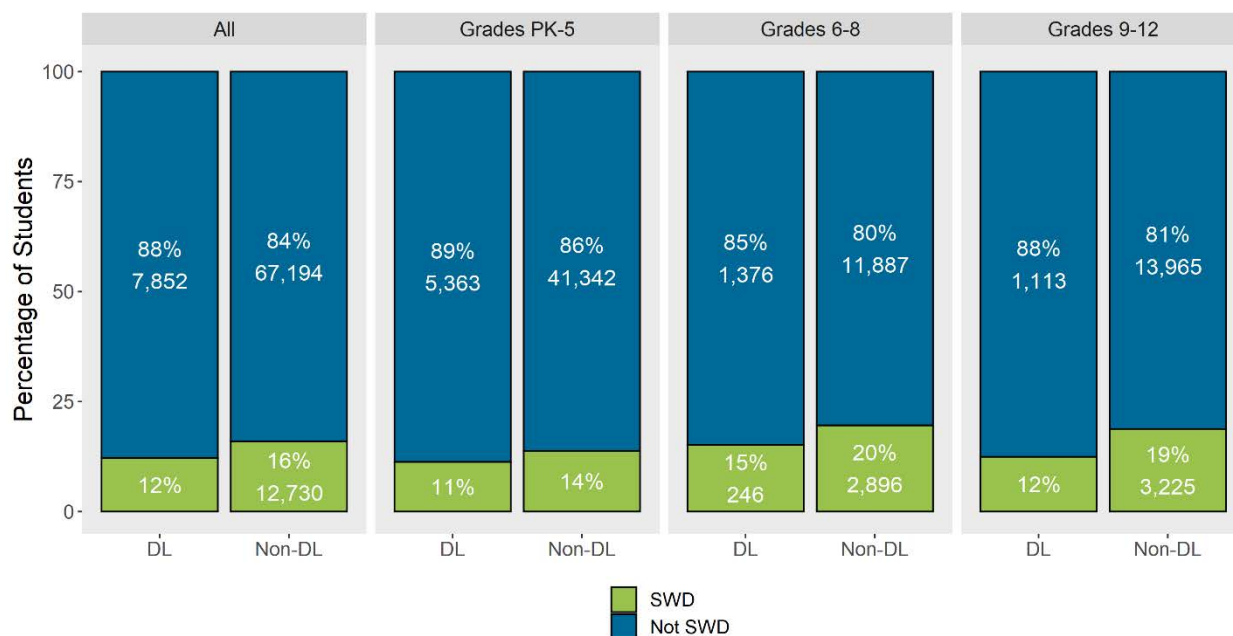
Figure D6. 2019-20: Proportion of Students with Disabilities in DL versus non-DL Enrollees, by Ward of Residence
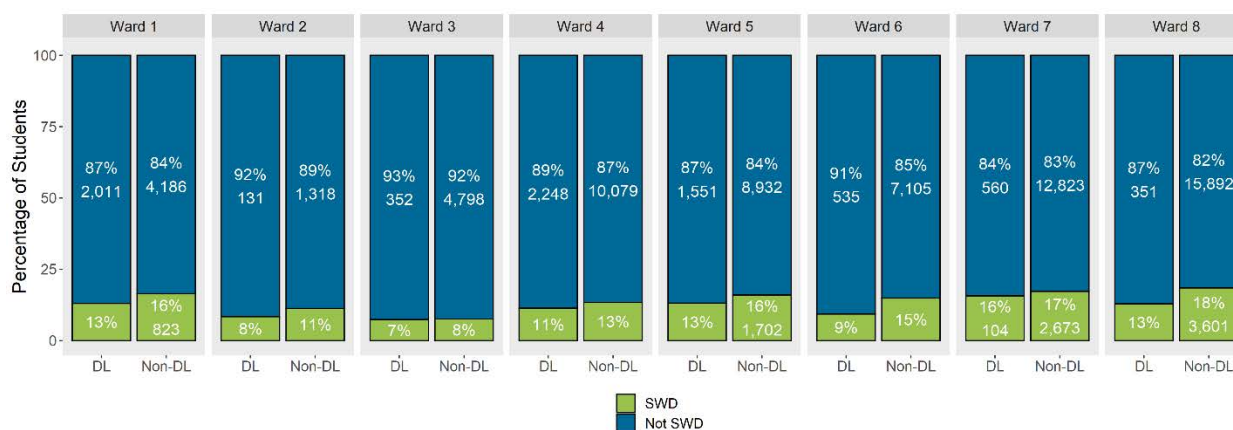
In the 2019-20 school year, the representation of students with disabilities in DL programs was relatively consistent across wards (**Figure D6**), with slightly lower representation in Ward 2, 3, and 6. Among students living in Wards 3 and 7, a similar proportion of students enrolled in DL versus non-DL programs were students with disabilities. In contrast, students with disabilities are under-represented in DL programs among students living in Wards 1, 5, 6, and 8.

Students who are At-Risk

The at-risk[41] definition applies to students who are homeless, in the District's foster care system, qualify for Temporary Assistance for Needy Families (TANF) or the Supplemental Nutrition Assistance Program (SNAP), or high school students that are one year, or more, than expected age for the grade in which the students are enrolled. All other students are included within students not at-risk in this report. In the 2019-20 school year, 5 percent of students who are at-risk enrolled in DL programs, compared to 10 percent of the overall student population. In examining proportions of students enrolled by program type – DL versus non-DL -- there are disproportionately fewer students who are at-risk enrolled in DL programs. In the 2019-20 school year, 47 percent of students enrolled in non-DL programs were students who are at-risk, compared to only 21 percent of students enrolled in DL programs. The under-representation of students who are at-risk in DL programs has been consistent over the past five years, with the smallest share of students who are at-risk enrolled in the 2019-20 school year.

Figure D7. Proportion of Students who are At-Risk in DL versus non-DL Enrollees, by School Year
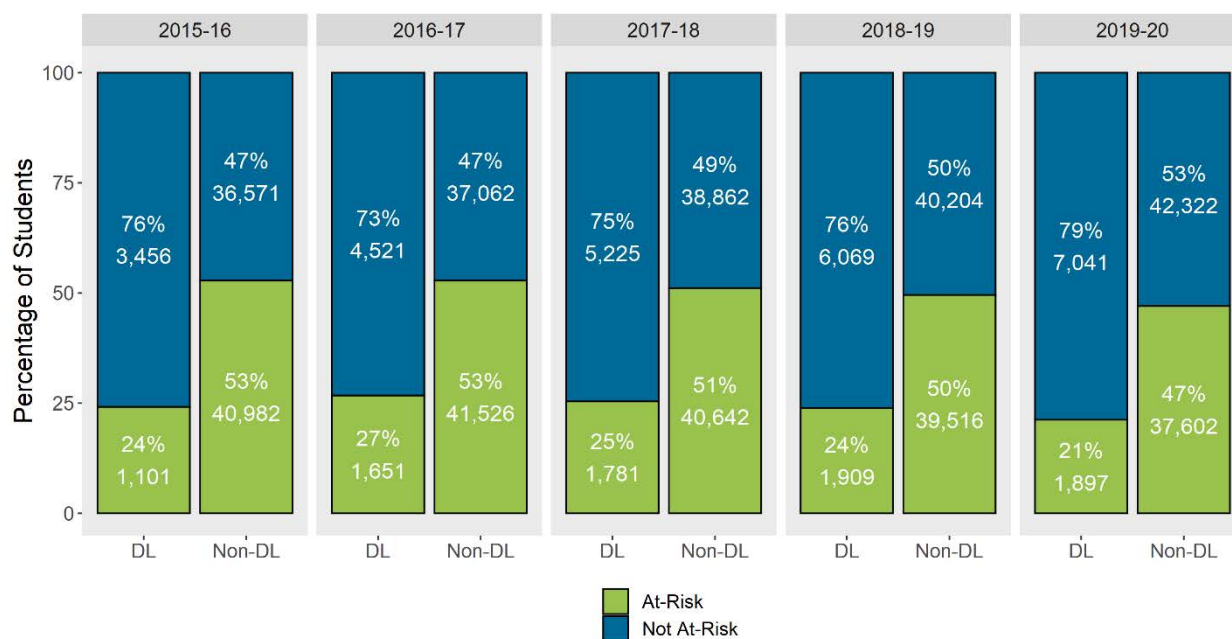
Students who are at-risk are particularly under-represented in DL programs in grades pre-K to 5. Only 17 percent of DL students are identified as at-risk compared to 45 percent of non-DL students. In contrast, the proportion of high school students enrolled in DL programs in the 2019-20 school year programs was more comparable to the non-DL high school population, though still significantly different.

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[41] Chapter 29. Uniform Per Student Funding Formula. *Retrieved from:*
https://code.dccouncil.us/dc/council/code/titles/38/chapters/29/

Figure D8. 2019-20: Proportion of Students who are At-Risk in DL versus non-DL Enrollees, by Grade Band
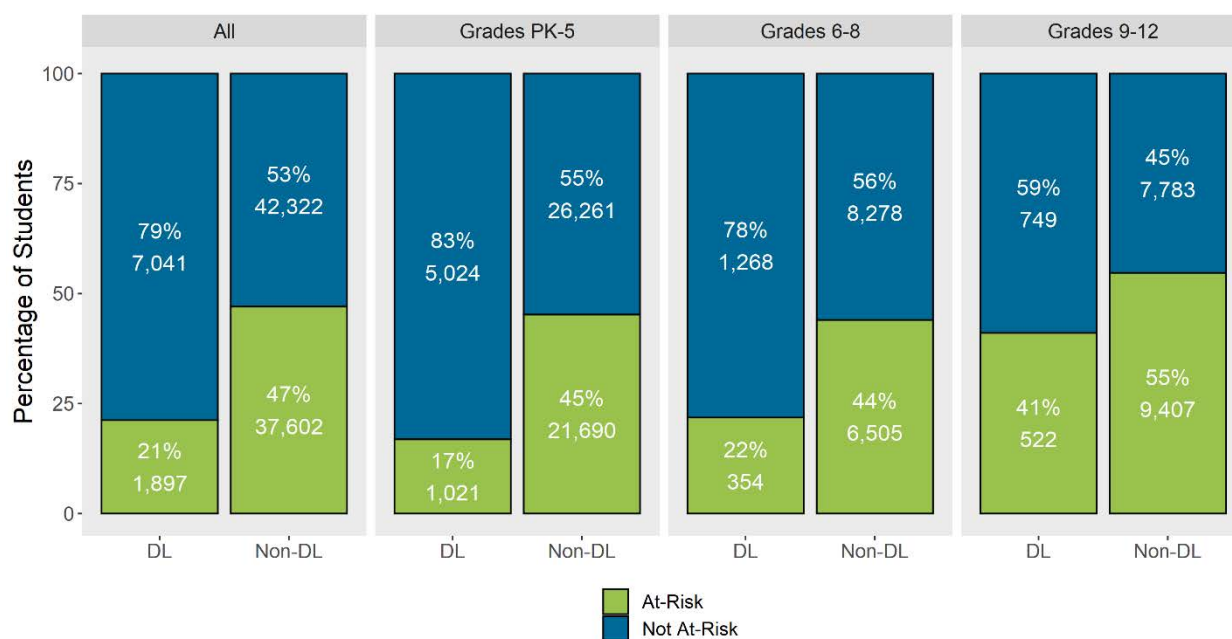
Figure D9. 2019-20: Proportion of Students who are At-Risk in DL versus non-DL Enrollees, by Ward of Residence
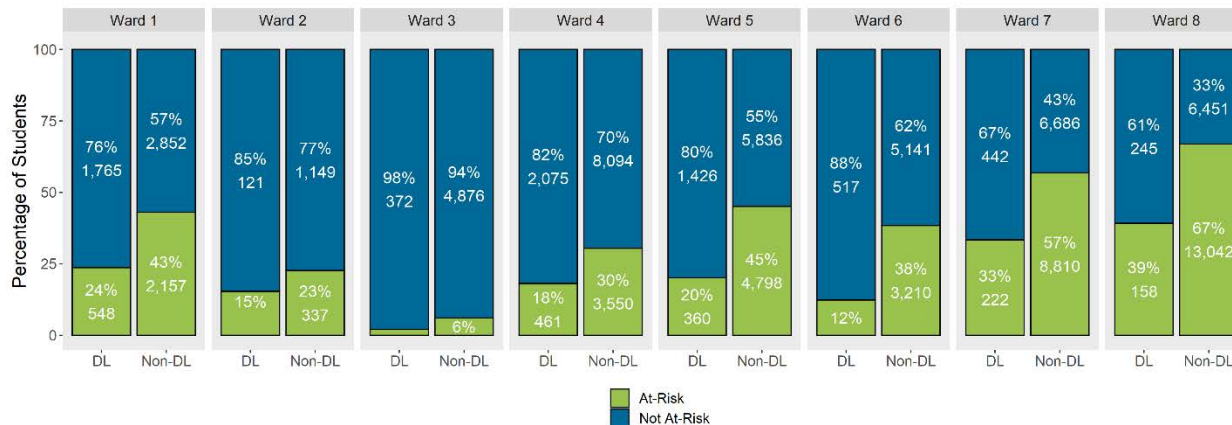
Figure D9 examines the proportions of students residing in each Ward who are at-risk compared to the proportion of students from that Ward who enroll in DL programs who are at-risk. Findings reveal that the greatest level of disproportionality between students enrolling in dual language programs compared to those who do not enroll occurs among students living in Wards 5, 6, 7, and 8, where the differences in the proportion of at-risk students enrolling DL versus non-DL programs are 25 percent, 26 percent, 24 percent, and 28 percent, respectively.

Figure D10. 2019-20 Number of Students Enrolled, by Ward of Residence and Student Group

Legend:
- ■ DL charter school, grades PK to 5
- ● DL DCPS school, grades PK to 5
- ▫ DL charter school, grades 6 to 12
- ○ DL DCPS school, grades 6 to 12

- ■ All Students, Ward of Residence
- ■ Students with Disabilities, Ward of Residence
- ■ English Learners, Ward of Residence
- ■ Student who are At-Risk, Ward of Residence

Darker shading indicate greater numbers of students in the ward.

2019-20: All Pre-K to 12 Students

- 4 n=14,180
- 3 n=5,572
- 1 n=7,322
- 5 n=12,420
- 2 n=1,629
- 6 n=8,941
- 7 n=16,160
- 8 n=19,896

2019-20: Students with Disabilities

- 4 n=1,853
- 3 n=422
- 1 n=1,125
- 5 n=1,937
- 2 n=180
- 6 n=1,301
- 7 n=2,777
- 8 n=3,653

2019-20: English Learners

- 4 n=4,326
- 3 n=597
- 1 n=2,483
- 5 n=1,773
- 2 n=478
- 6 n=328
- 7 n=471
- 8 n=206

2019-20: Students who are At-Risk

- 4 n=4,011
- 3 n=324
- 1 n=2,705
- 5 n=5,158
- 2 n=359
- 6 n=3,283
- 7 n=9,032
- 8 n=13,200

English Learners with Disabilities

In DC, two percent of the student population is identified as English learners who have disabilities. These students represent a higher proportion of enrollments in DL programs than non-DL programs, with five percent of students enrolled in DL programs identifying as English learners with disabilities. This higher proportion of students dually identified as English learners and students with disabilities enrolled in DL programs suggests these programs may be more successful in either identifying or recruiting this vulnerable student population compared to non-DL programs. Further, DL programs appear to enroll a higher proportion of English learners compared to non-DL programs regardless of disability status. This trend remains consistent across grade bands.

In contrast, a lower proportion of students with disabilities who are not English learners enrolled in DL programs compared to non-DL programs. This trend is consistent across grade bands where the proportion of students with disabilities who are not English learners who enroll in non-DL programs is more than two times higher than the proportion who enroll in DL programs.

Figure D11. Proportion of DL versus non-DL Enrollees who are ELs and SWDs, by School Year
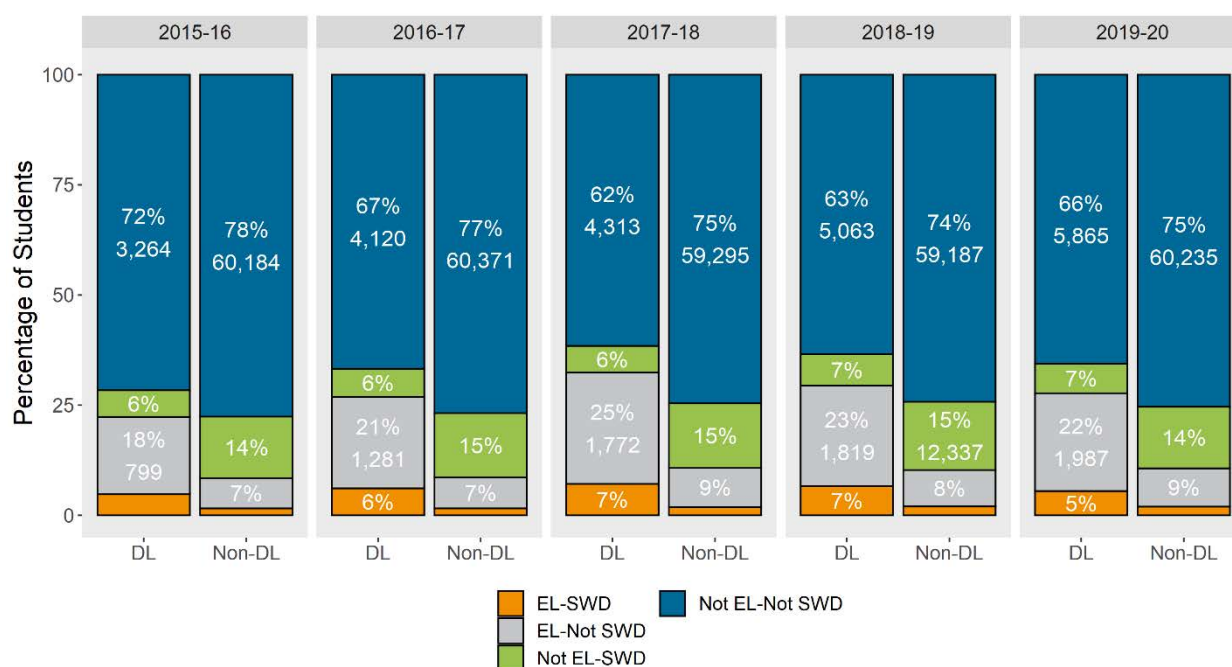
Figure D12. 2019-20: Proportion of DL versus non-DL Enrollees who are ELs and SWDs, by Grade Band
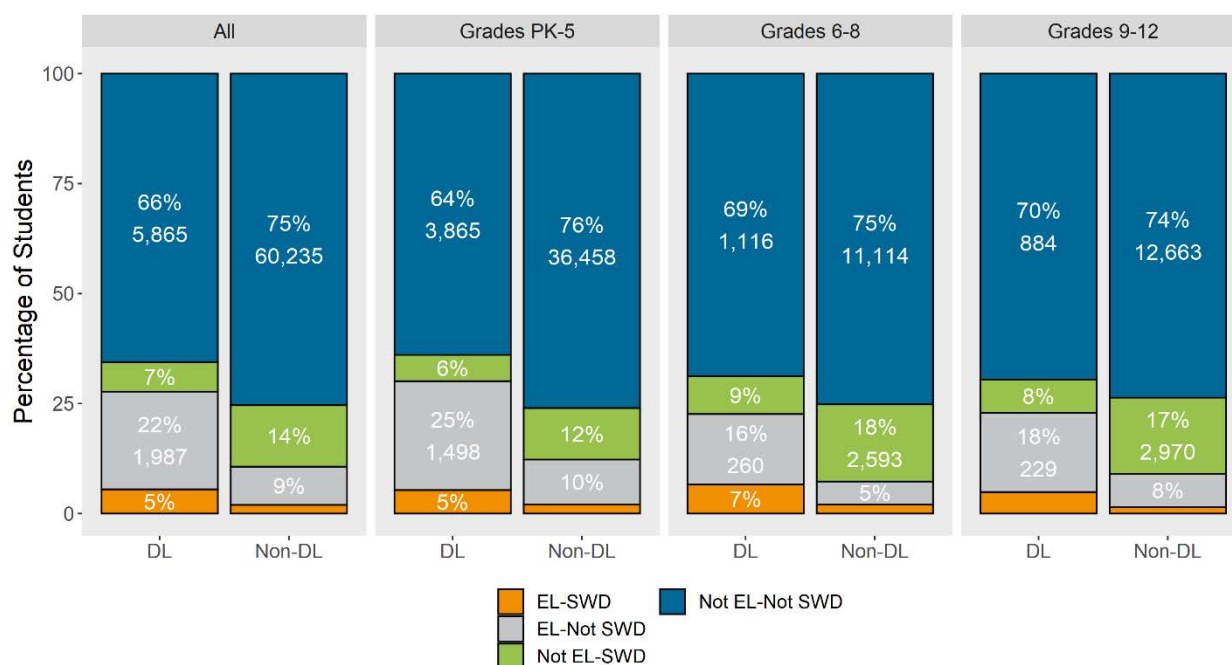
Figure D13. 2019-20: Proportion of DL versus non-DL Enrollees who are ELs and SWDs, by Ward of Residence
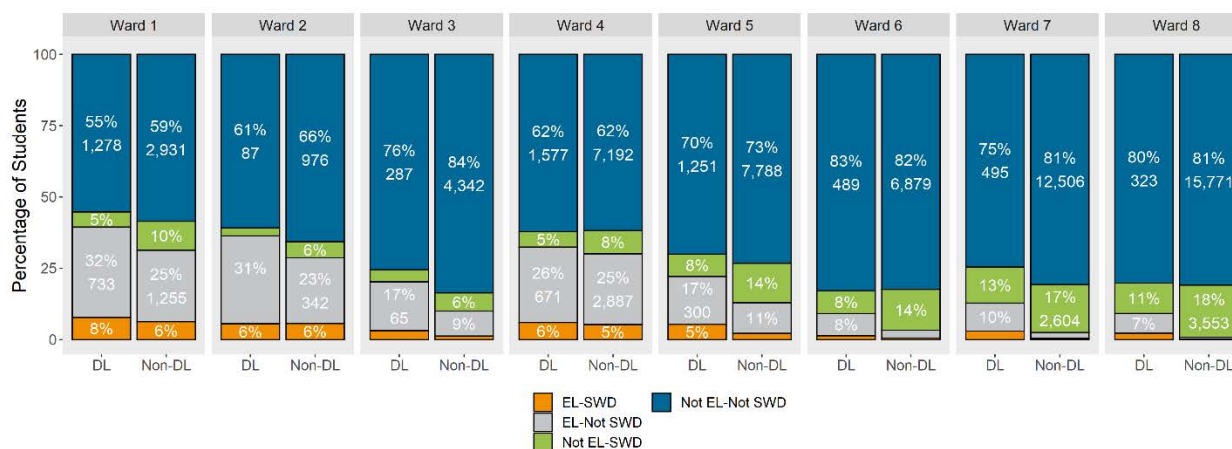
English Learners who are At-Risk

In the 2019-20 school year, four percent of pre-K to 12 students were English learners who are at-risk.[42] English learners who are at-risk enroll in DL programs at a higher rate than non-DL programs (8 versus 4 percent), as do English learners who are not at risk (20 versus 8 percent). In contrast, students who are at-risk and not English learners enroll at a disproportionality lower rate, representing 13 percent of

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[42] Note that the number and percentage of students who are English learners who are at-risk is likely under-estimated due to the fact that undocumented students do not qualify for SNAP or TANF benefits; receipt of SNAP and TANF benefits are two of five criterion used to identify students who are at-risk. See *Appendix A: Definitions* for detail.

students in DL programs, but 43 percent of students in non-DL programs. This trend remains relatively consistent across grade bands, however slightly lower rates of disproportionality are observed among high school students.

Figure D14. Proportion of DL versus non-DL Enrollees who are ELs and At-Risk, by School Year
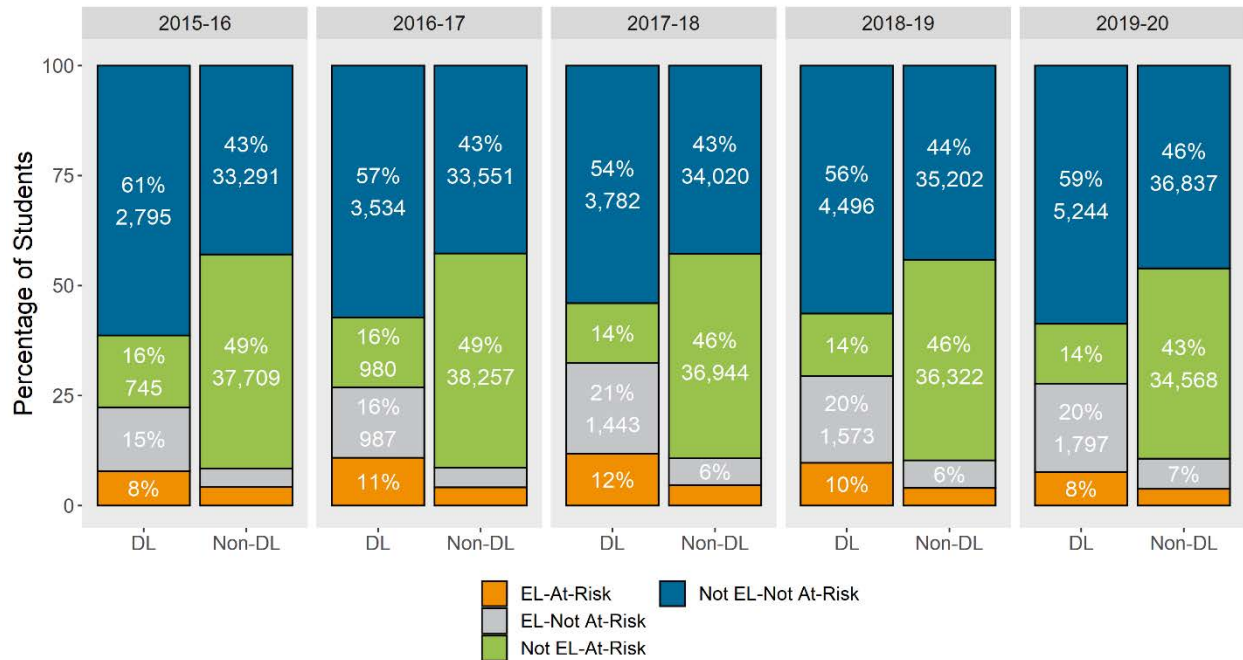
Figure D15. 2019-20: Proportion of DL versus non-DL Enrollees who are ELs and At-Risk, by Grade Band
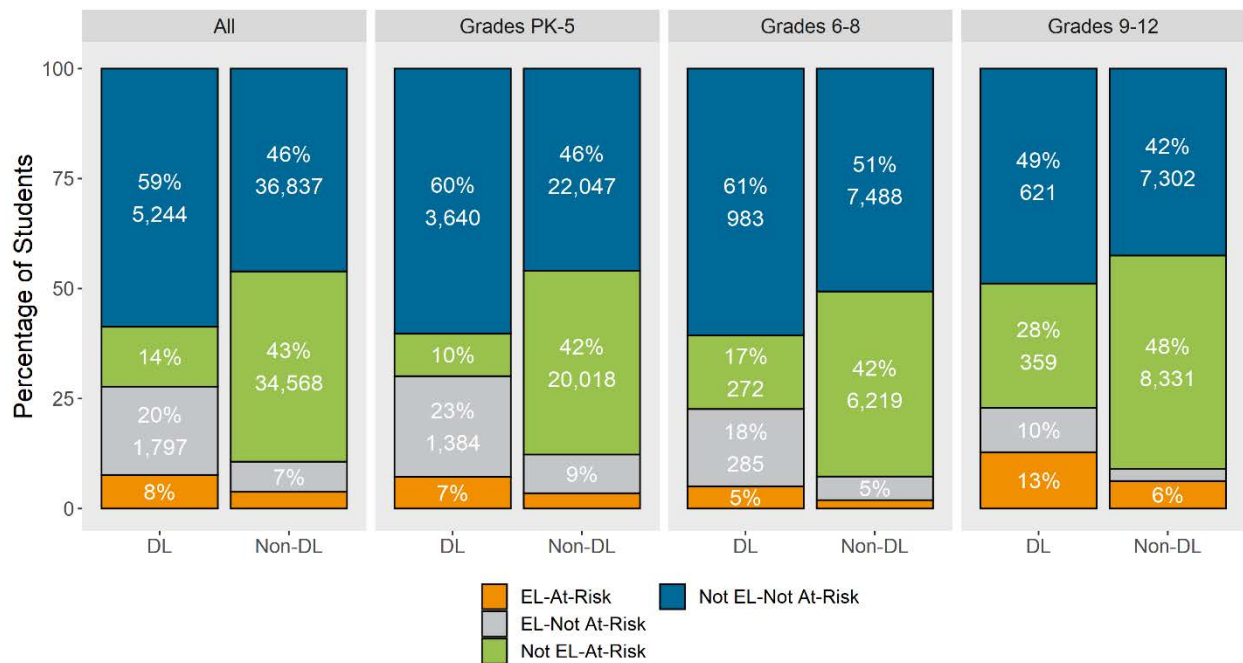
Figure D16. 2019-20: Proportion of DL versus non-DL Enrollees who are ELs and At-Risk, by Ward of Residence
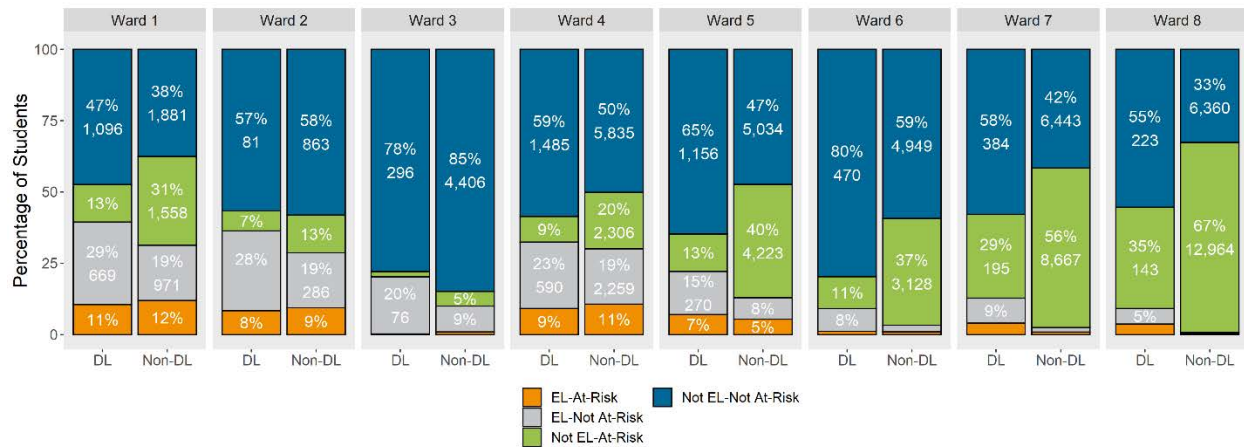
Students with Disabilities who are At-Risk

Examination of enrollment patterns among students with disabilities who are at-risk reveals that these students are under-represented in DL programs compared to non-DL programs. Consistent with overall trends for students who are at-risk, students without disabilities who are at-risk are also under-represented in DL versus non-DL programs. Across grade bands, the proportion of students with disabilities who are not at-risk who enroll in DL compared to non-DL programs is similar, suggesting that at-risk status drives much of the disproportionalities observed among students with disabilities overall.

Figure D17. Proportion of DL versus non-DL Enrollees who are SWDs and At-Risk, by School Year
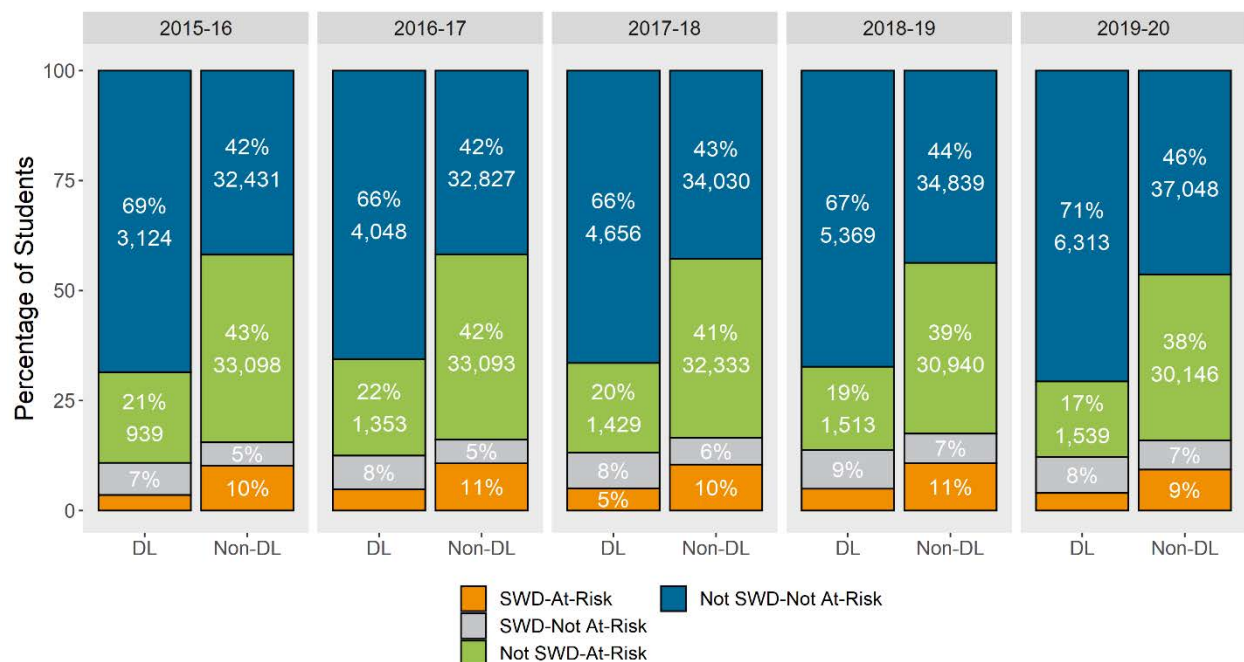
Figure D18. 2019-20: Proportion of DL versus non-DL Enrollees who are SWDs and At-Risk, by Grade Band
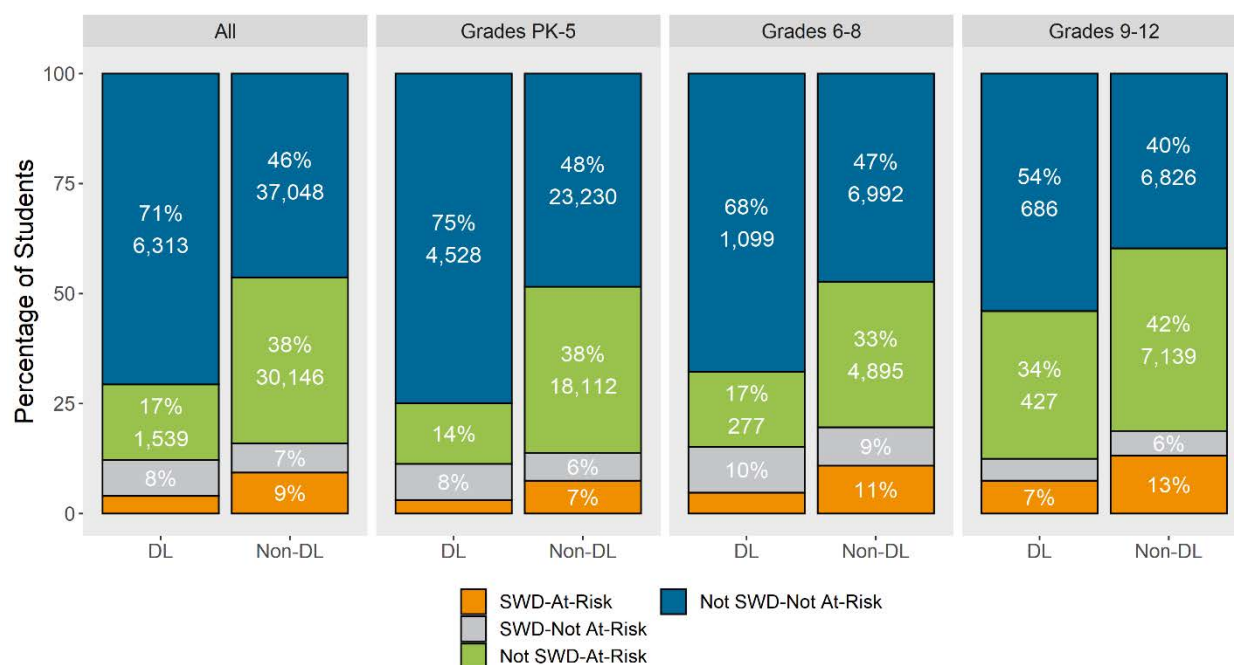
Figure D19. 2019-20: Proportion of DL versus non-DL Enrollees who are SWDs and At-Risk, by Ward of Residence
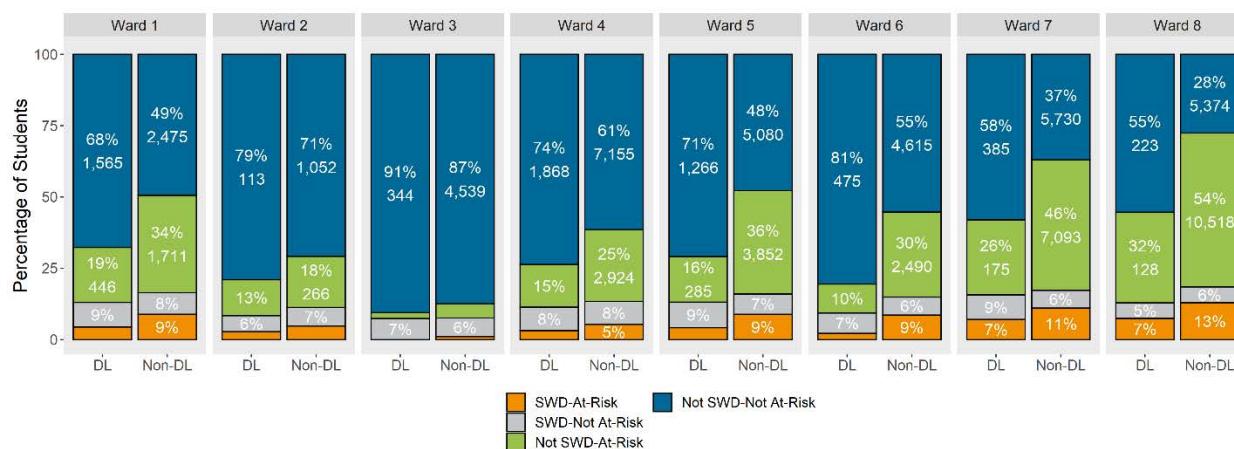
Student Gender

In contrast to trends observed among other student groups, there is no observed disproportionality in enrollment patterns in DL compared to non-DL programs observed among males compared to females across school years. By comparison, a slightly lower proportion of males enroll in DL programs compared to non-DL programs.

Figure D20. Proportion of DL versus non-DL Enrollees, by Gender and School Year
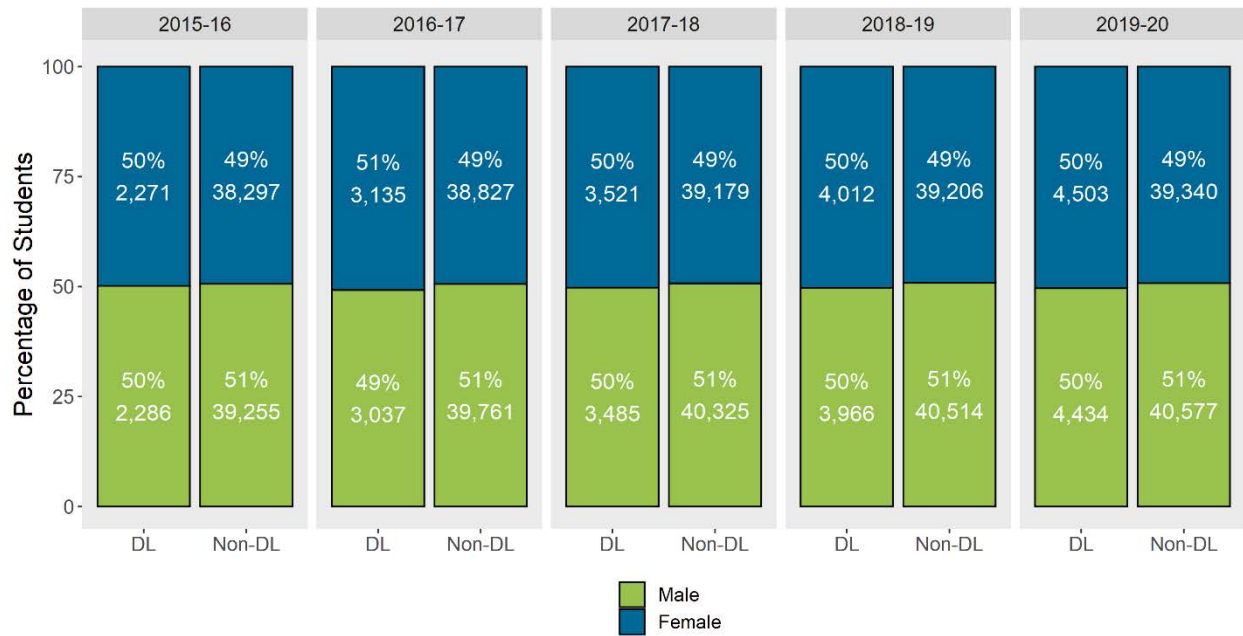
Figure D21. 2019-20 Proportion of DL versus non-DL Enrollees, by Gender and Grade Band
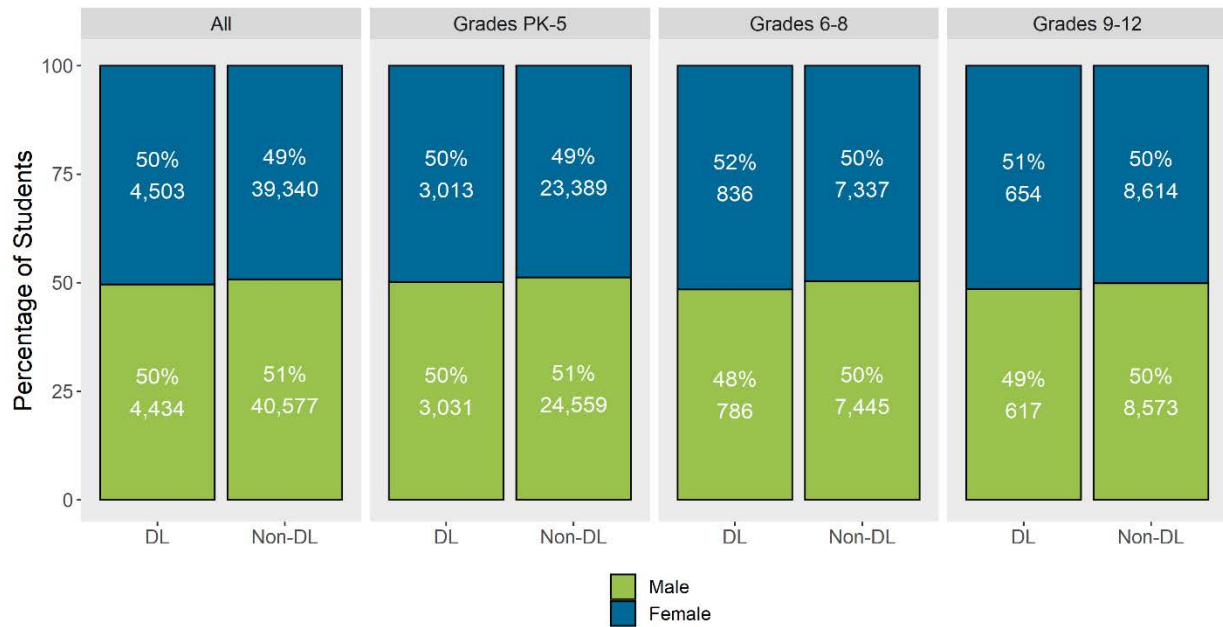
Figure D22. 2019-20: Proportion of DL versus non-DL Enrollees, by Gender and Ward of Residence
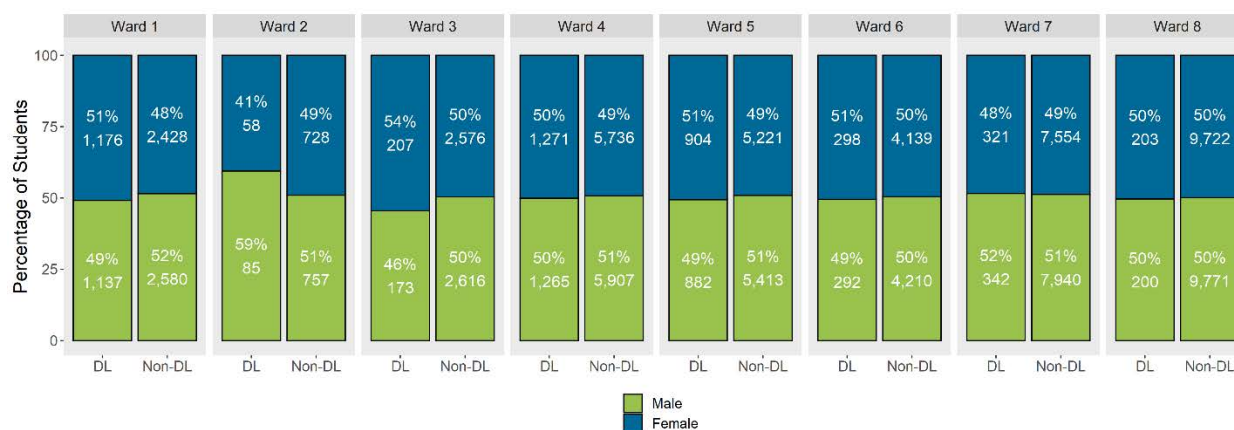
### Student Race/Ethnicity

Between the 2015-16 and 2019-20 school years, there have been relatively consistent levels of disproportionality observed in the enrollment rates in DL programs versus non-DL programs among different racial/ethnic student groups. A significantly smaller share of students enrolling in DL programs identify as African-American compared to students enrolling in non-DL programs. Although African-American students represented approximately 65-70% of the student population between the 2015-16 and 2019-20 school years, they represented only 25-30% of the student population enrolled in DL programs in the same years. In contrast, a significantly higher share of both White and Hispanic/Latinx students of any race enrolled in DL programs in 2019-20 compared to non-DL programs. Among Asian students and students with Two or More Races, there are smaller but similarly significant levels of disproportionality.

Figure D23. Proportion of DL versus non-DL Enrollees, by Race/Ethnicity and School Year
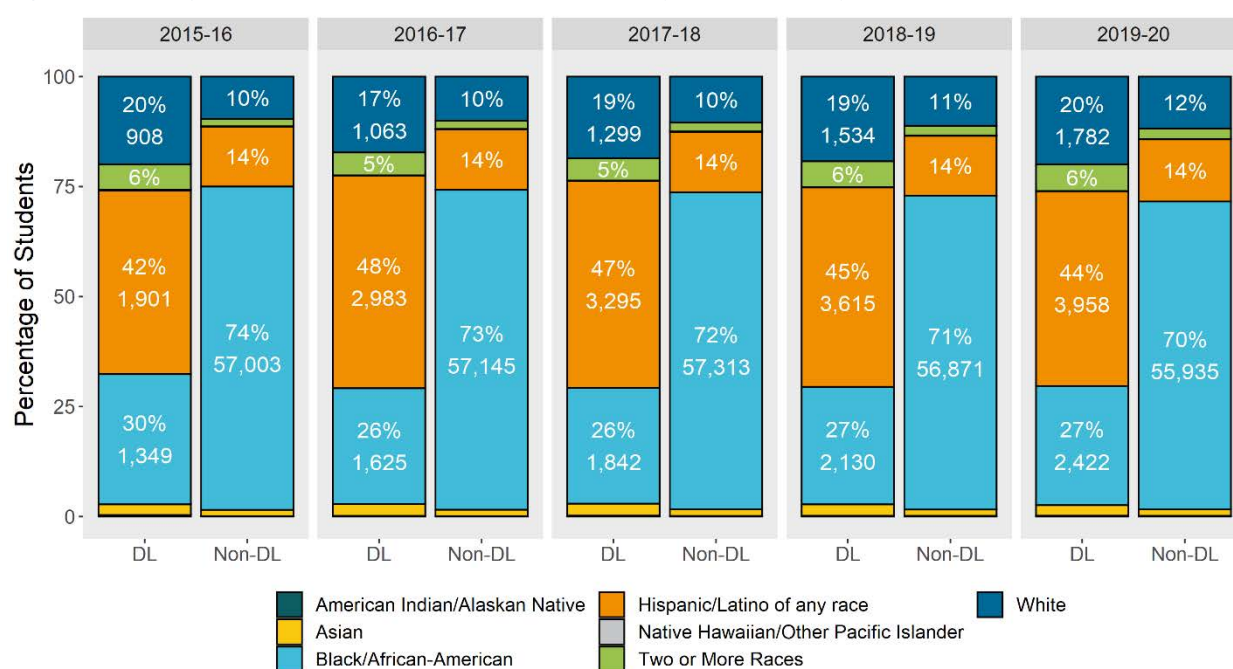
Similar trends are observed when examining enrollments by grade band (**Figure** D24) with 26 percent of elementary DL students identifying as Black/African-American compared to 68 percent of the non-DL student population. African-American students enroll in DL programs in high school at higher rates, however disproportionality persists with 36 percent high school DL students identifying as Black/African-American compared to approximately 72 percent of non-DL enrollees; proportions of White students enrolled in DL compared to non-DL programs in high school are similar suggesting that a large share of White students engaged in DL program in elementary school exit DL programs by high school. Data are not available to analyze the reasons why students in different subgroups continue or exit the DL programs.

Figure D24. 2019-10 Proportion of DL versus non-DL Enrollees, by Race/Ethnicity and Grade Band
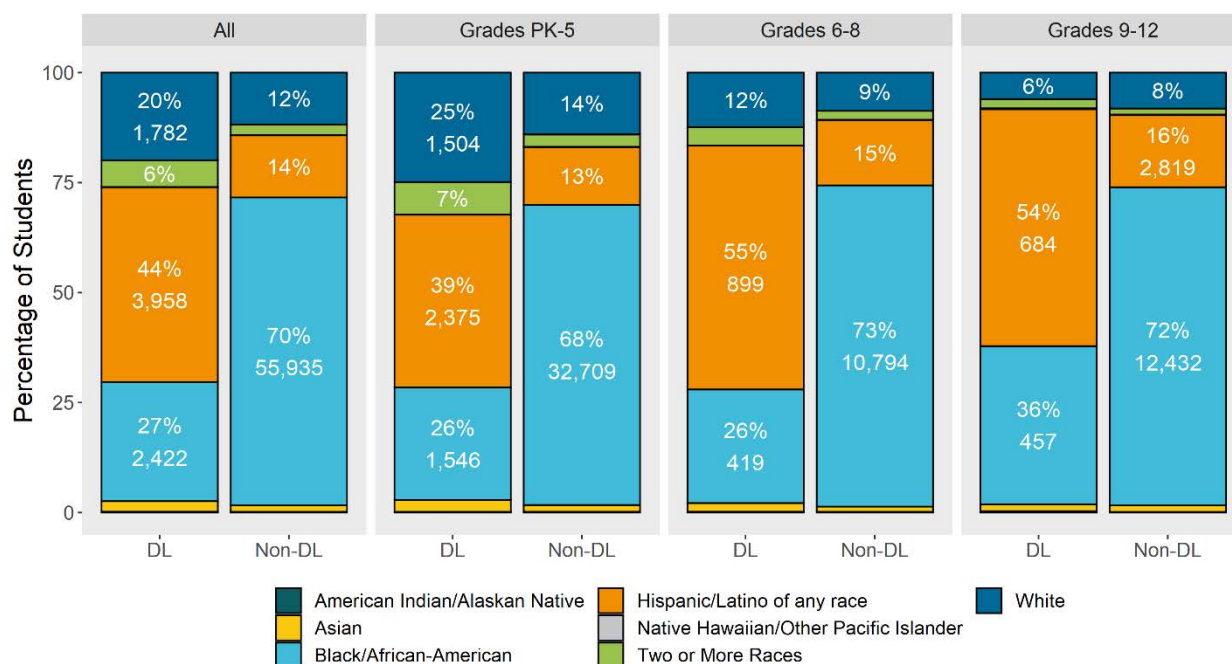
Across all Wards, Black/African-American students enroll in DL programs at lower rates compared to non-DL programs; this discrepancy is most pronounced in Wards 7 and 8 and least so in Ward 3. In contrast, Hispanic/Latinx students of any race enroll in DL programs at higher rates across all Wards, with significantly higher proportions of Hispanic/Latinx students enrolled in DL programs compared to non-DL programs. The relative proportion of White students in DL programs compared to non-DL programs varies by Ward, with a higher proportion enrolled in DL programs in Wards 1, 4, 5, 6 and 7, and a lower proportion in Wards 2 and 3.

Figure D25. 2019-10 Proportion of DL versus non-DL Enrollees, by Race/Ethnicity and Ward of Residence
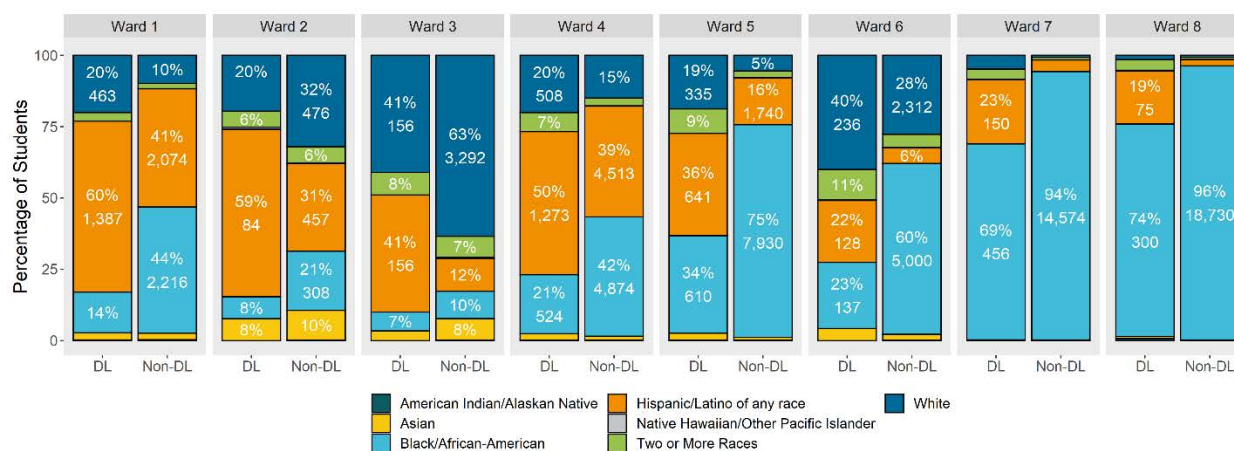
Student Gender and Race/Ethnicity

Figure D26. Proportion of DL versus non-DL Enrollees, by Gender-Race/Ethnicity and School Year
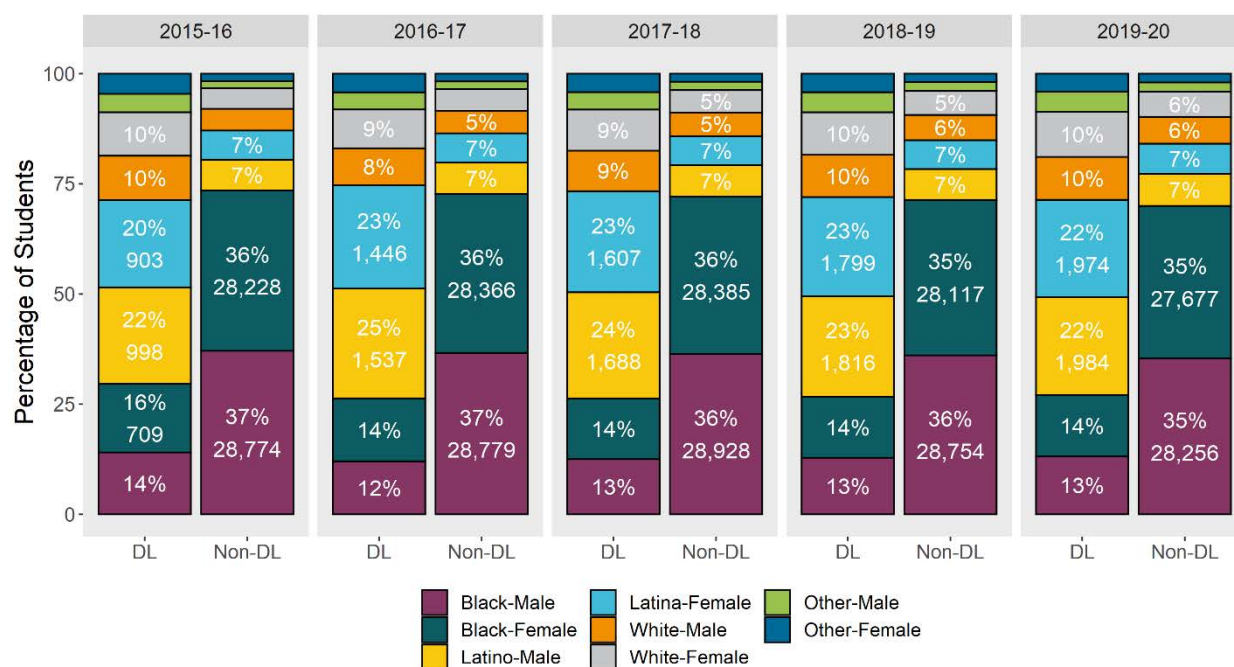
Similar proportions of males and females enroll in dual language programs across among Black/African-American, Latino/Hispanic of any race, and White students. This trend persists across grade bands with a slightly higher proportion of Hispanic/Latina and Black females enrolling in dual language programs compared to their male counterparts.

Figure D27. 2019-20 Proportion of DL versus non-DL Enrollees, by Gender-Race/Ethnicity and Grade Band
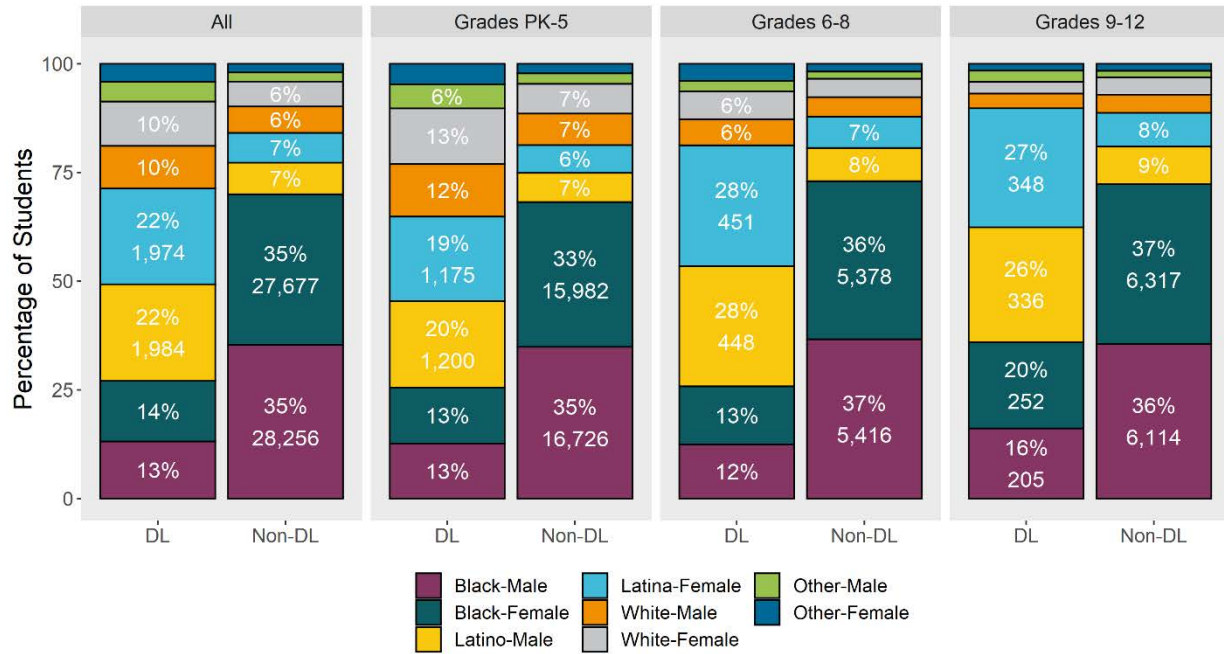
Figure D28. 2019-20: Proportion of DL versus non-DL Enrollees, by Gender-Race/Ethnicity and Ward of Residence
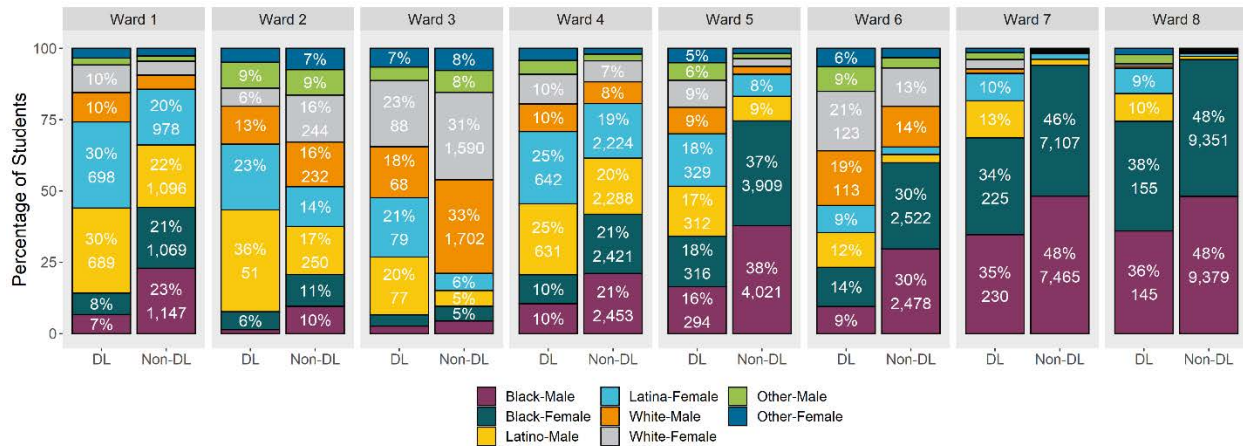
Student Ward of Residence

Figure D29. Proportion of DL versus Non-DL Enrollees, by Ward of Residence and School Year
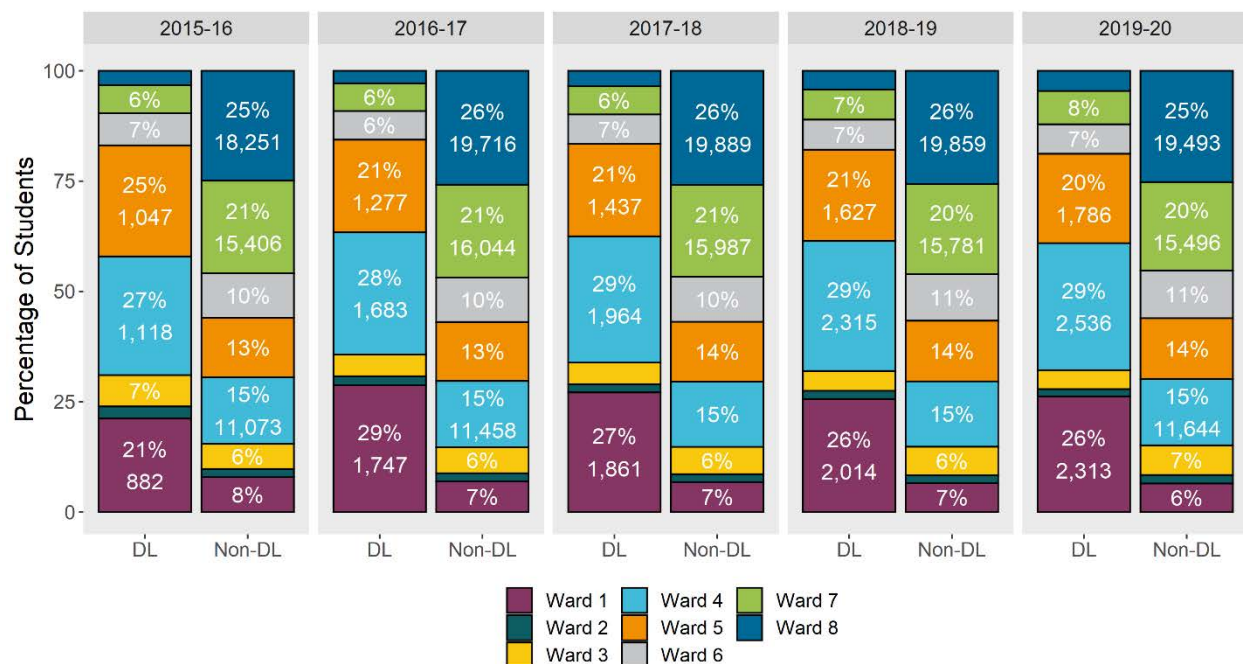
A higher proportion of students enrolled in DL programs reside in Wards 1, 4, and 5 compared to non-DL programs, with a lower proportion enrolling from Wards 6, 7, and 8. Similar trends were observed across grade band in the 2019-20 school year, with the exception of a higher representation of students living in Ward 1 observed in grades 6 to 8.

Figure D30. 2019-20: Proportion of DL versus Non-DL Enrollees, by Ward of Residence and Grade Band
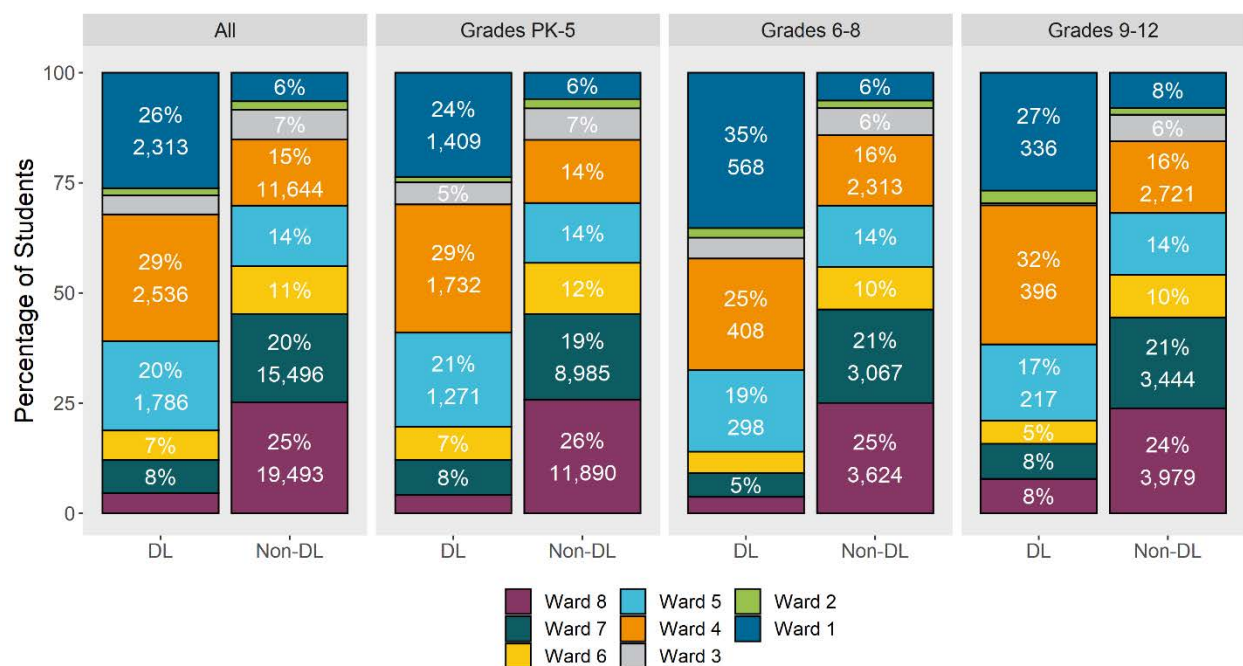
Appendix E: Dual Language Program Characteristics

Location of DL Programming

Ward-level enrollment in DL programs mirrors the number of programs in each ward with more DL students enrolled in schools in Wards 1, 4, and 5 and fewer enrolled in Wards 6 and 7; Wards 2 and 8 do not have any DL programs.

Figure E1. 2019-20 Ward of School among DL v. Non-DL Enrollees
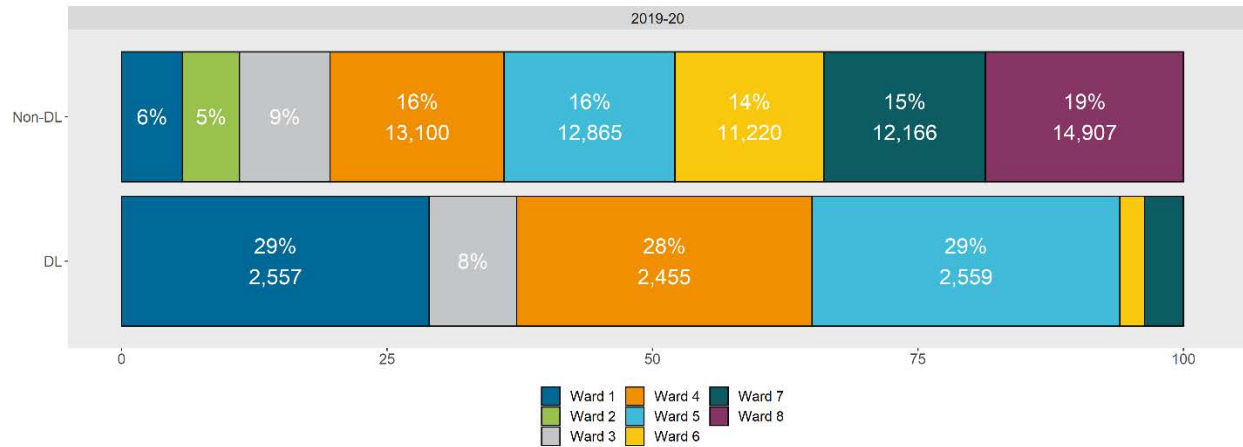
Figure E2. 2019-20 Proportion of DL versus Non-DL Enrollees, by School Ward and Grade Band
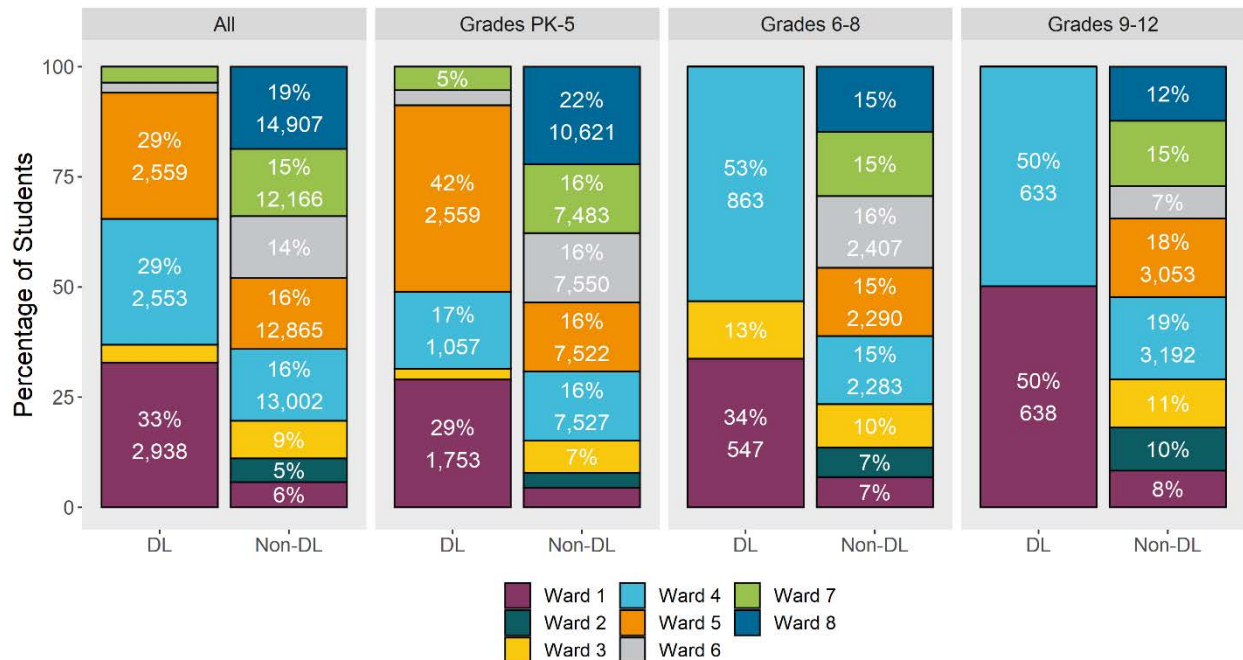
Figure E3. Proportion of DL versus Non-DL Enrollees, by School Ward and School Year
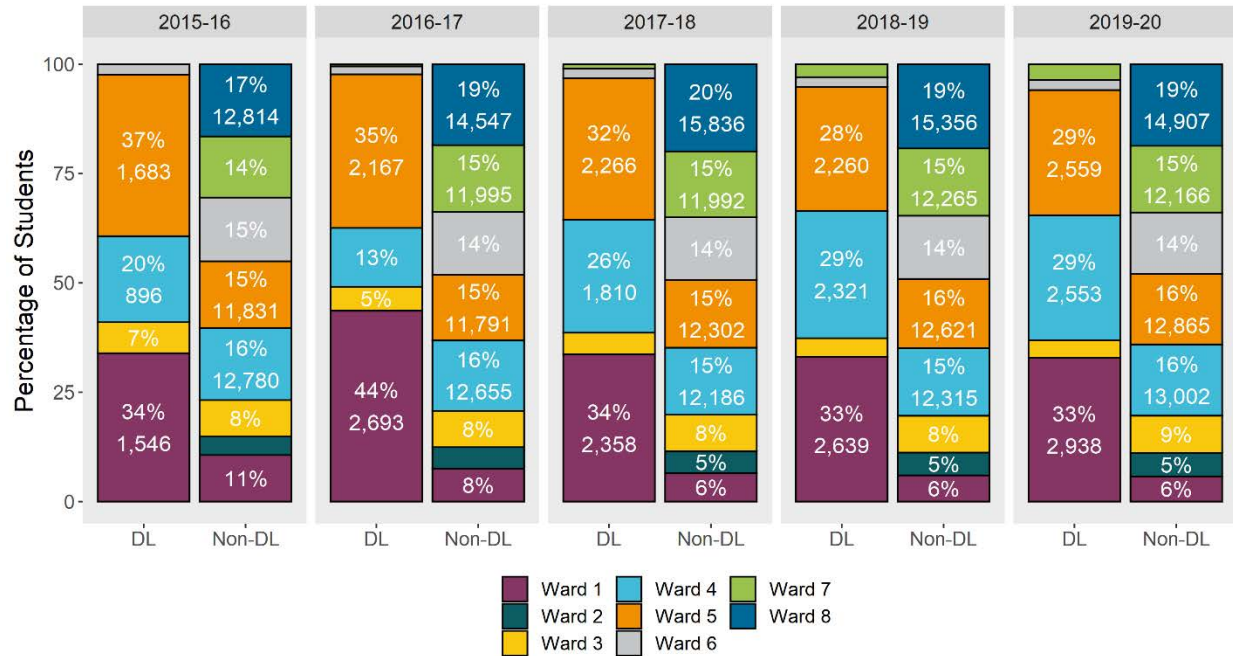
Figure E4. Proportion of DL versus Non-DL Enrollees Outside Ward of Residence, by School Year
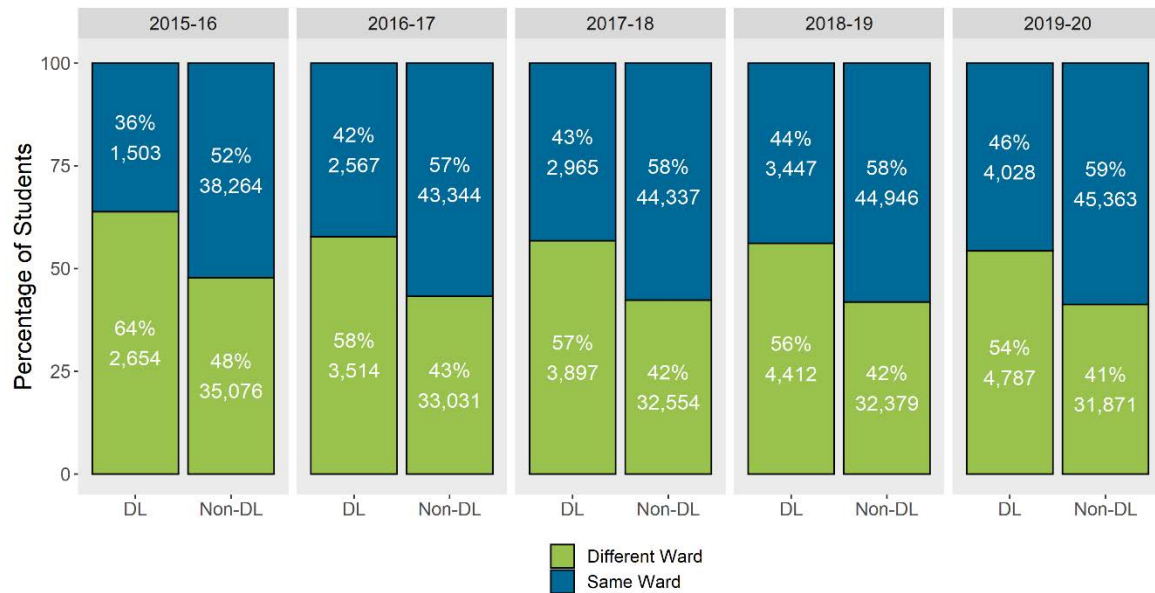
Figure E5. Proportion of DL versus Non-DL Enrollees Outside Ward of Residence, by Grade Band
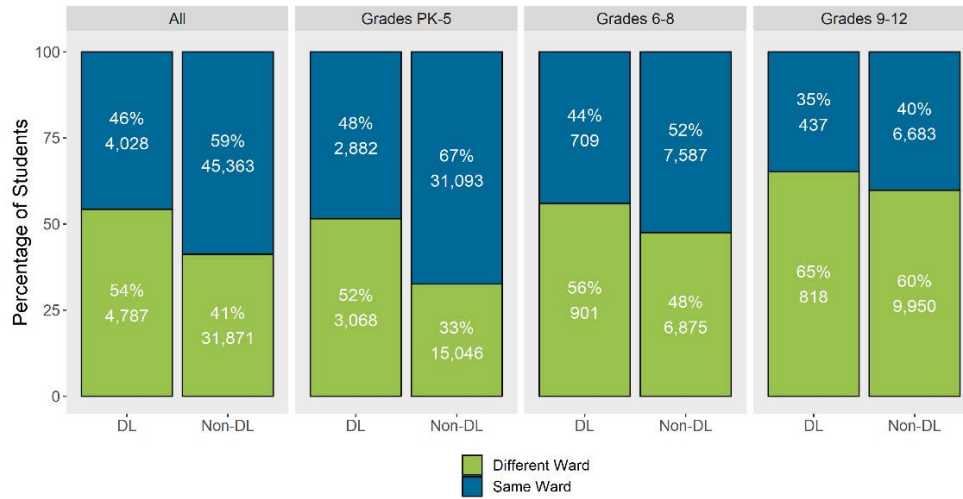
Figure E6. 2019-20 Proportion of DL versus Non-DL Enrollees Outside Ward of Residence, by Ward of Residence
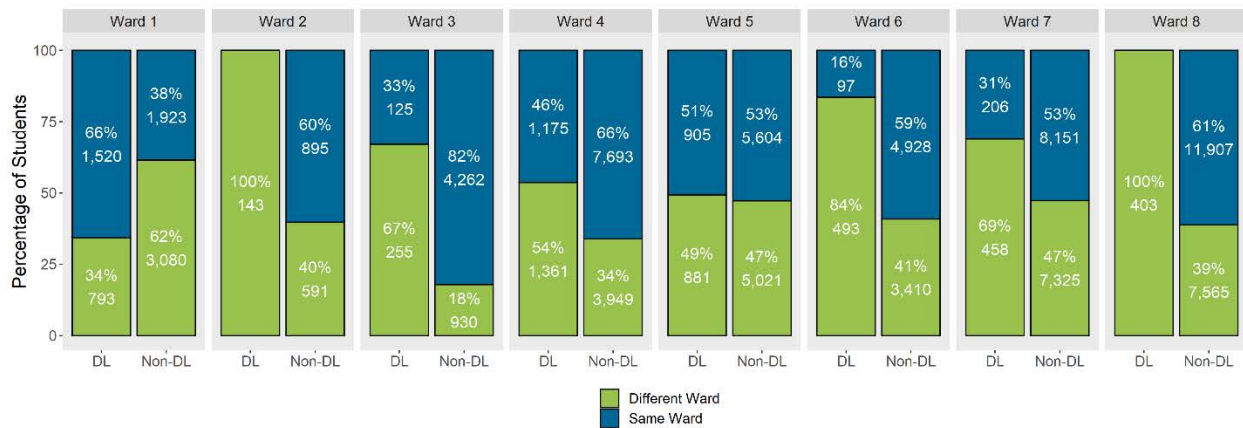
Figure E7. 2019-20 Ward of School Among DL versus Non-DL Enrollees Attending School Outside Ward of Residence, by Ward of Residence
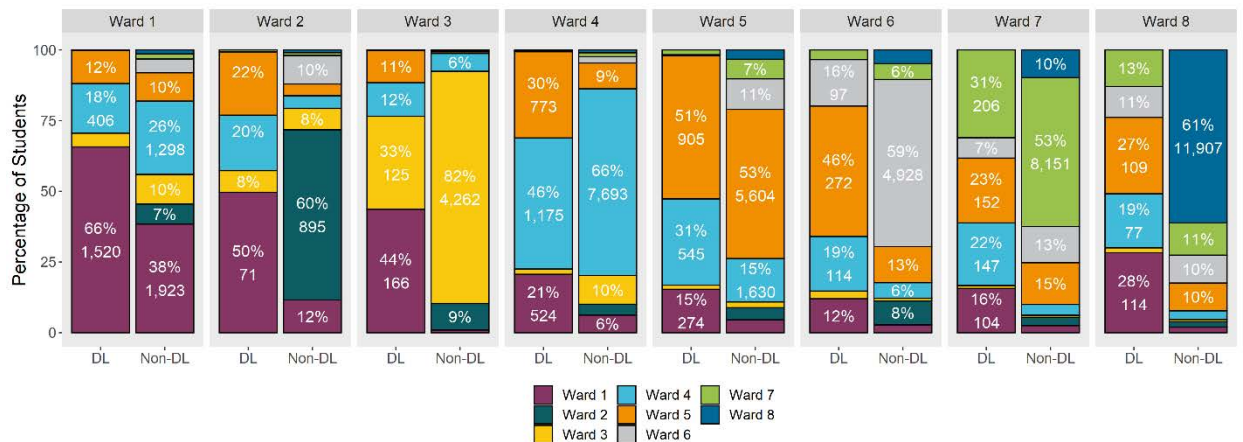
Dual Language Program Characteristics

Dual Language Program Models

The proportion of dual language programs that are one-way developmental versus two-way immersion has fluctuated over the past five years, largely due to changes in the percentage of the student population that is Spanish-speaking in some of the largest DL programs which hover around the 67 percent threshold to be designated as one-way development versus two-way immersion programs.

Figure E8. Dual Language Program Model, by School Year
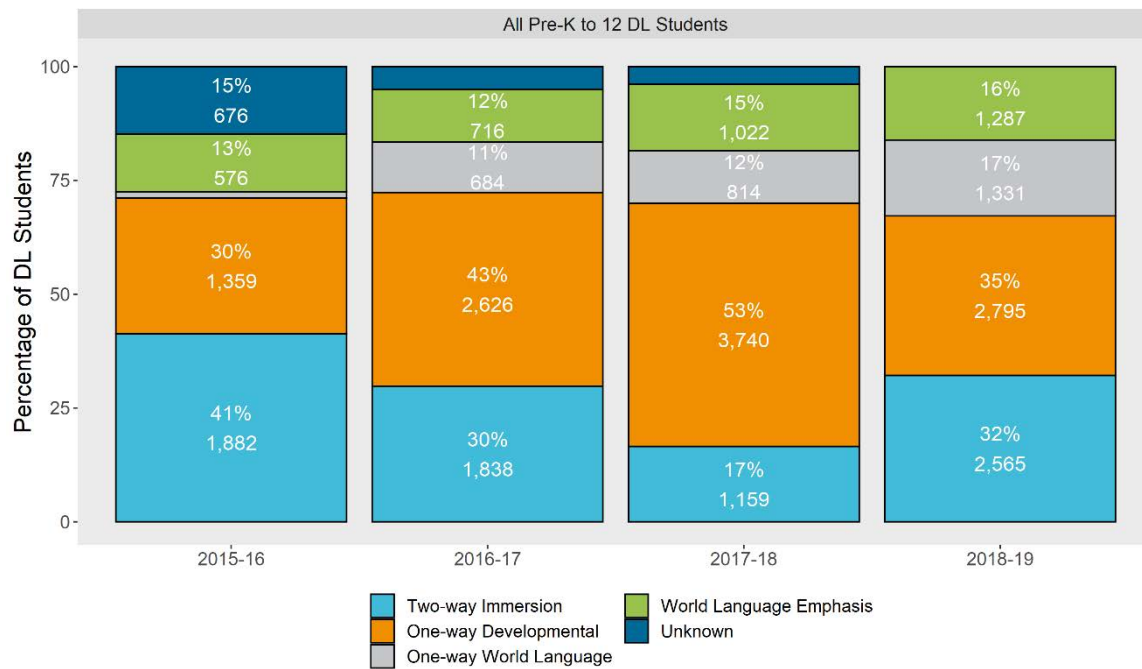
Figure E9. 2019-20 Dual Language Program Model, by Grade Band
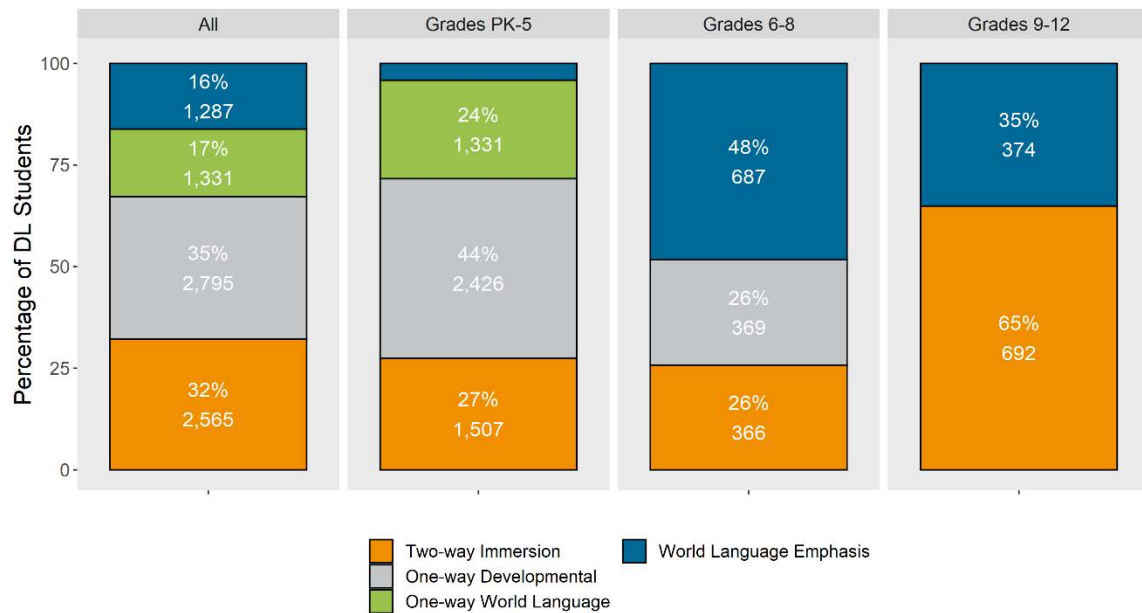
Dual Language Program Types

From the 2015-16 through 2017-18 school years, there was an increase in the proportion of students enrolled in DL strand programs, however the percentage of students enrolled in DL whole school versus whole grade versus strand has remained relatively consistent over the past three years.

Figure E10. Dual Language Program Type, by School Year
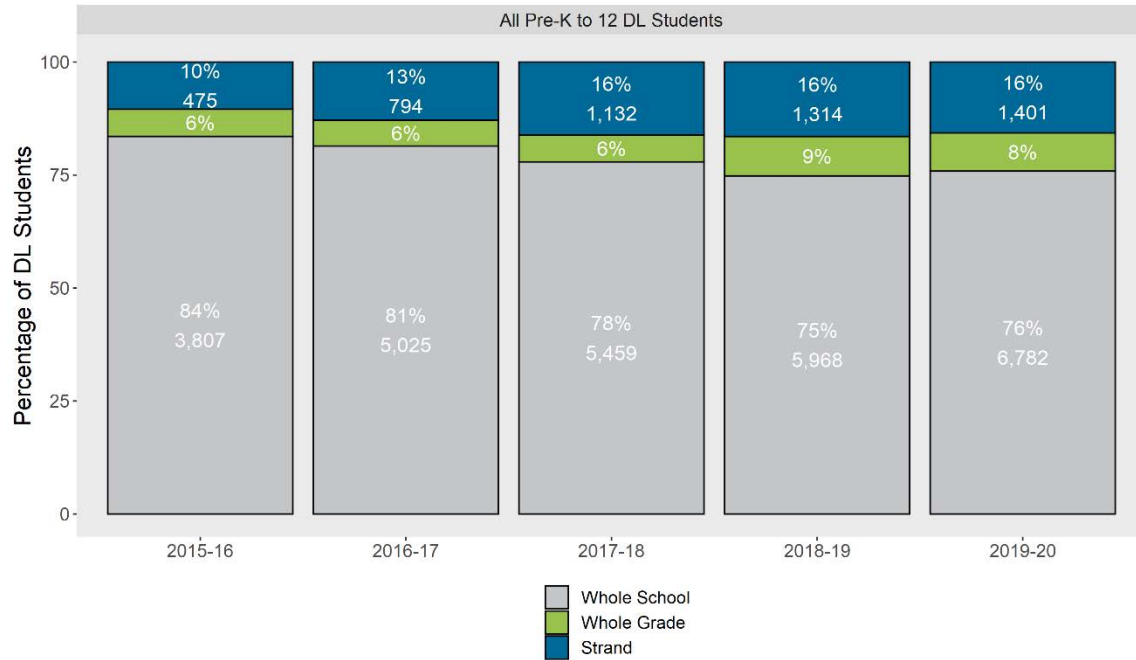
Figure E11. 2019-20 Dual Language Program Type, by Grade Band
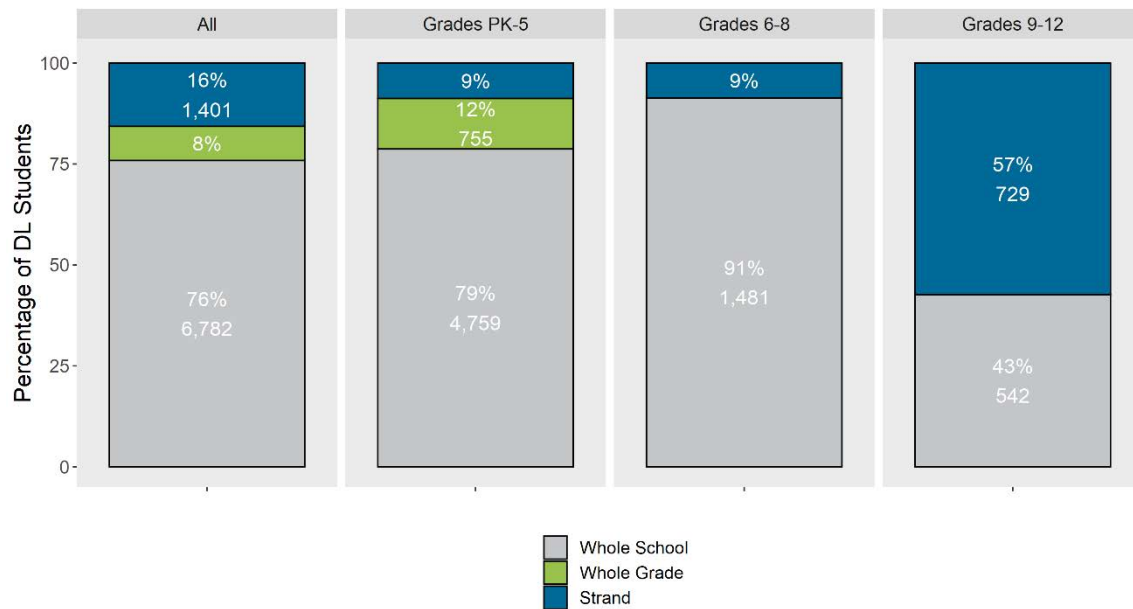
Dual Language Program Partner Language

Figure E12. Dual Language Program Partner Language, by School Year
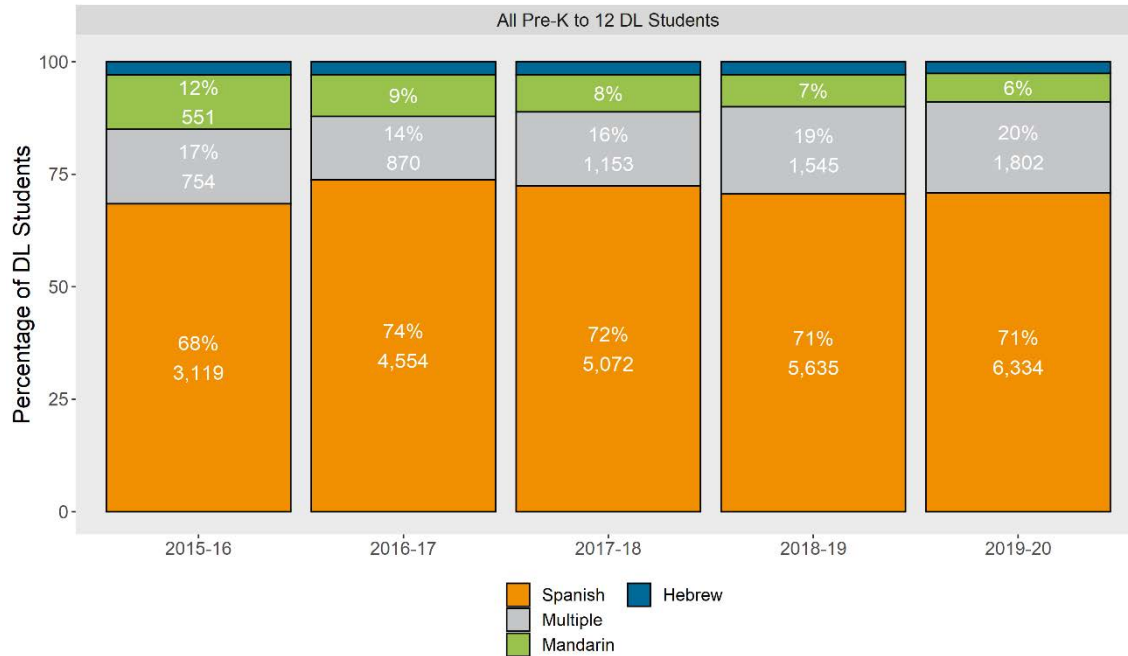
Figure E13. 2019-20 Dual Language Program Partner Language, by Grade Band
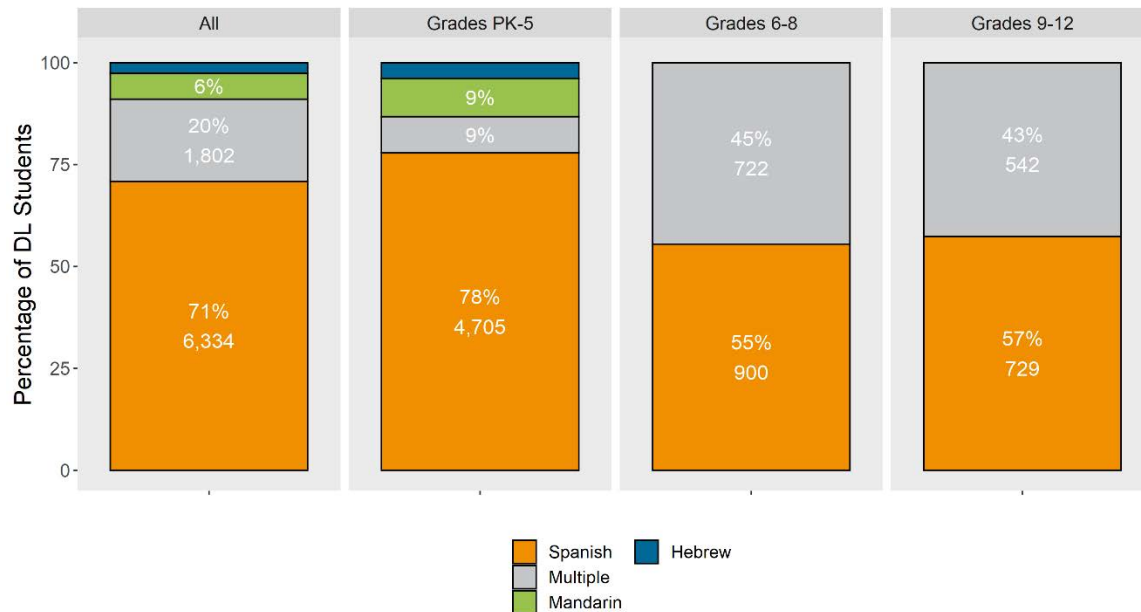
Figure E13 provides detail on the proportion of dual language students in each grade band who were enrolled in a dual language program offering Spanish, Mandarin, or Hebrew as the partner language in addition to the proportion of students enrolled in a dual language program offering multiple languages.[43]

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[43] Due to data limitations, it is not possible to determine which partner language students are studying at schools that offer multiple partner languages.

In the 2019-20 school year, the majority of elementary school students were enrolled in dual language programs where Spanish is the partner language, however more than 20 percent of students are enrolled in a school where they had the option to study a partner language other than Spanish. In middle school and high school, almost half of students were enrolled in dual language programs that provide instruction in more than one partner language.

Student Native Language

In DC, students come from more than 133 different countries and speak more than 107 different languages. Among students in DC, the top six most common native languages of students identifying a native language other than English are: Spanish, Amharic, French, Chinese, Vietnamese, and Arabic, with Spanish being the most common by far. A greater share of students who identify Spanish as their native language are represented in DL programs compared to non-DL programs. A smaller share of students who identify Amharic and French as their native language are represented. Two DL programs offer French as a partner language, but none offers Amharic as a partner language.

The representation of native languages among students enrolled in DL programs remained relatively consistent between the 2015-16 and 2018-19 school years, with a higher proportion of students enrolled in DL programs identifying Spanish as their native language compared to students enrolled in non-DL programs. This finding is consistent with the fact that the majority of DL programs in DC have Spanish as the partner language. These findings were consistent across grade band in the 2018-19 school year.

Ward-level analysis revealed a relative under-representation of students whose native language is not English living in Wards 2, 3, 6, and 8. Figure E17 provides detail on the number of students living in each ward whose native language is not English who are enrolled in DL versus non-DL programs.

Figure 14. 2018-19: Proportion DL versus non-DL Enrollees Who Are Not Native English Speakers, by Native Language and Year

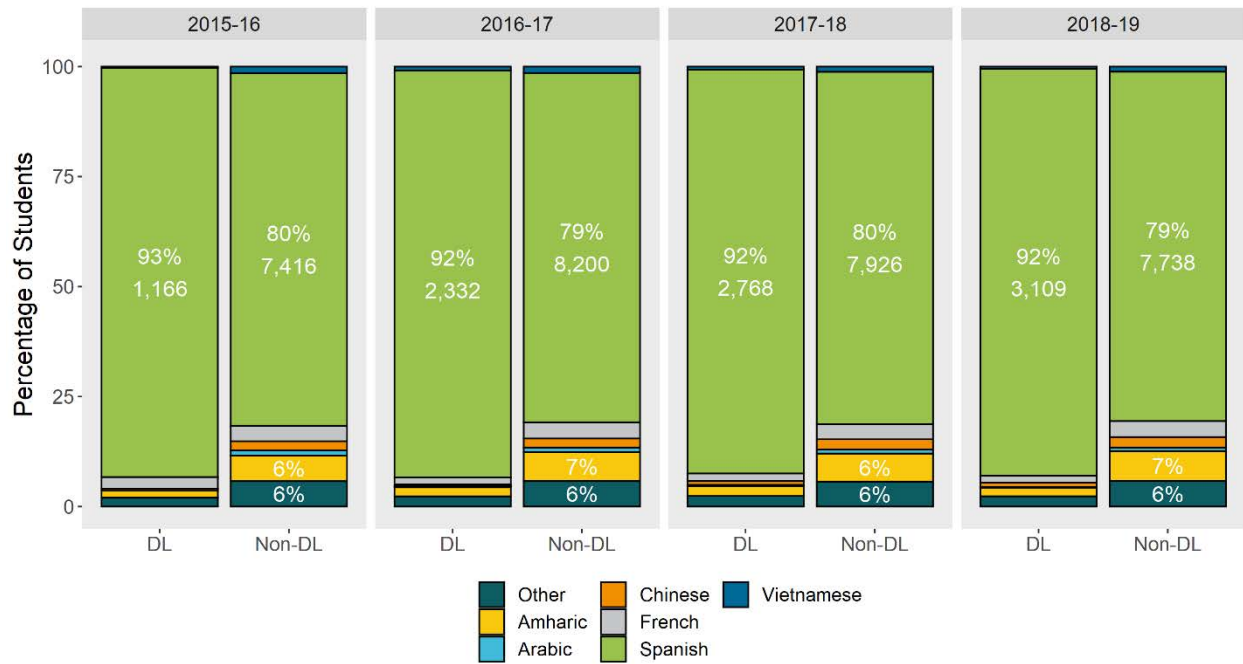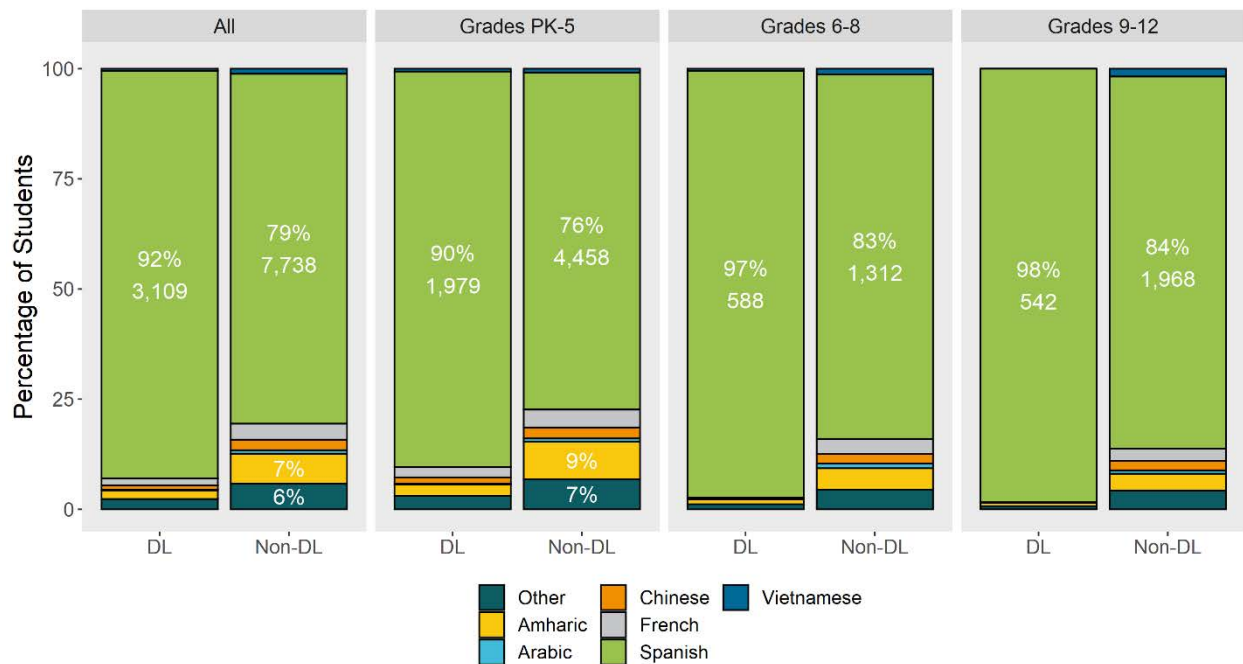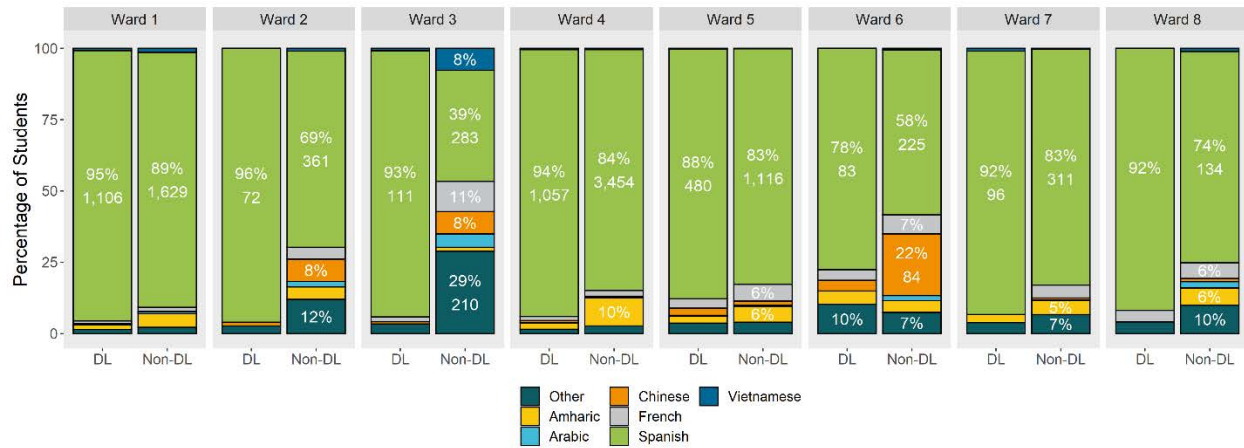Figure E15. Proportion of DL versus non-DL Enrollees, by Native Language and School Year

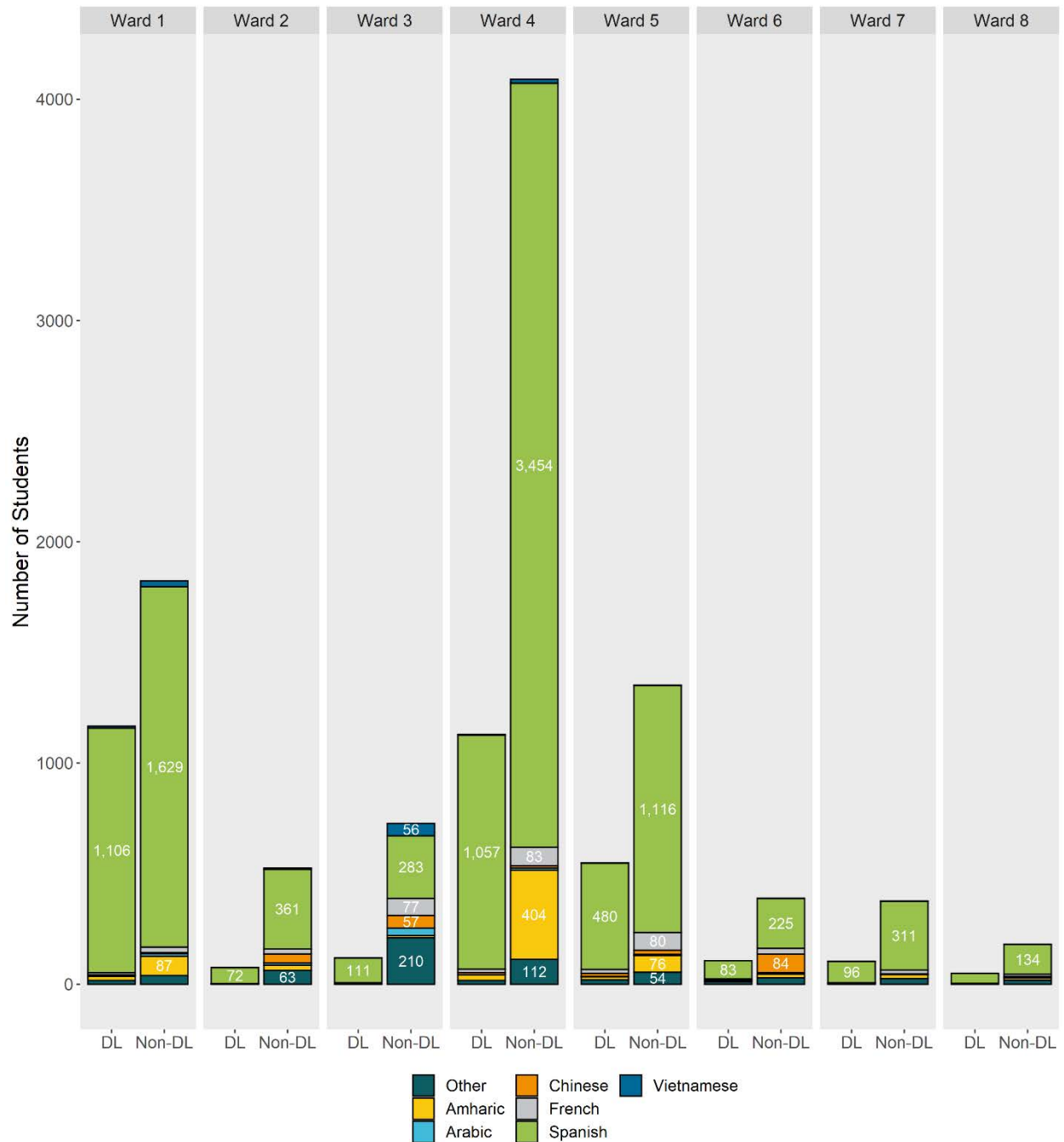Figure E16. 2019-20: Proportion of DL versus non-DL Enrollees, Native Language and Grade Band

Figure E17. 2019-20: Proportion of DL versus non-DL Enrollees, Native Language and Ward of Residence

Figure E18. 2019-20: Count of DL versus non-DL Enrollees, Native Language and Ward of Residence

Dual Language Program Characteristics: Language Allocation

Figure E19. Dual Language Program Characteristics: Language Allocation, by School Year
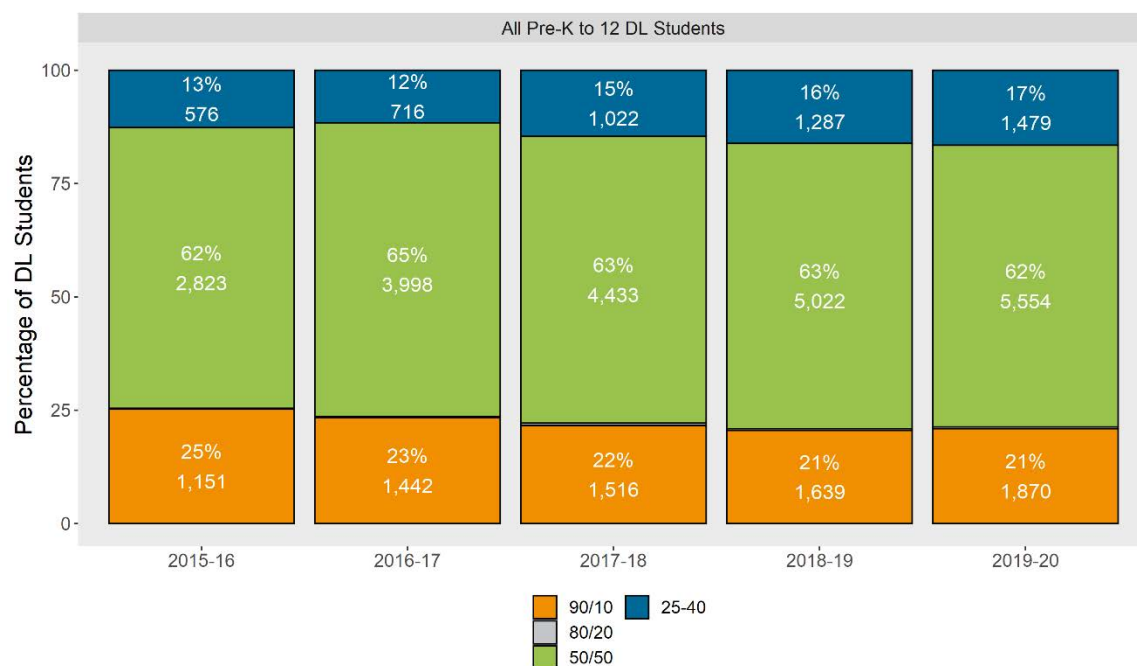
Figure E19 provides detail on the proportion of students enrolled in DL programs between the 2015-16 and 2019-20 school years, by language allocation of the program. Patterns in the language allocation adopted by DL programs have remained relatively unchanged over the past five years. There has been an increase in the proportion of students attending DL programs with a partner language allocation of 25 or 40 percent since the 2015-16 school year, reflecting the expansion of dual language programming at the middle and high school levels in programs that do not maintain a 50/50 language allocation.

Figure E20. 2019-20 Dual Language Program Characteristics: Language Allocation, by Grade Band
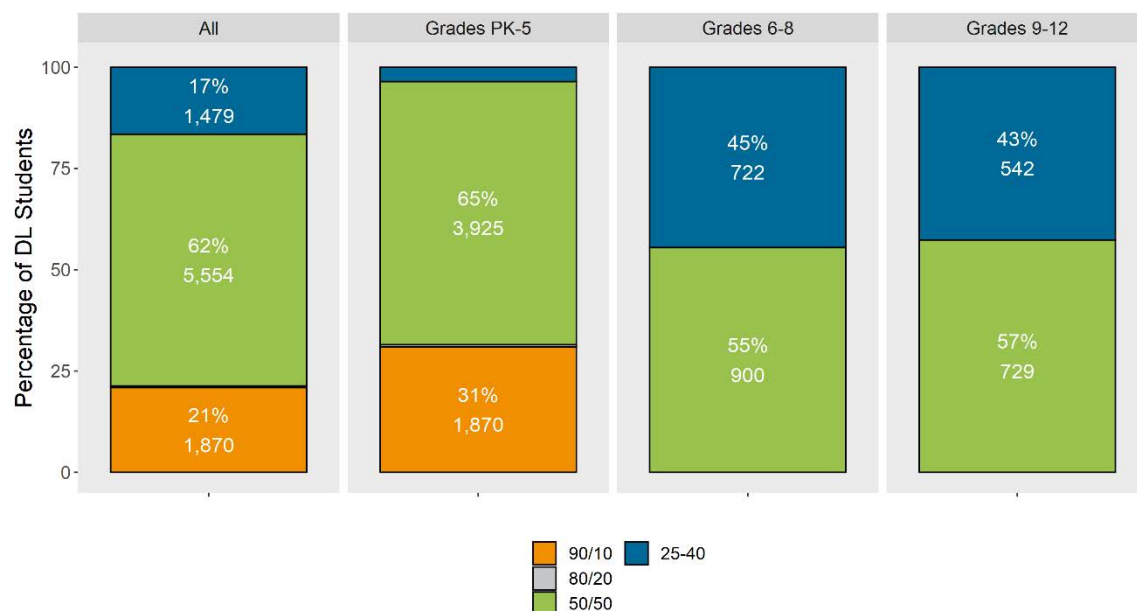
Dual Language Program Characteristics: Instructional Approach

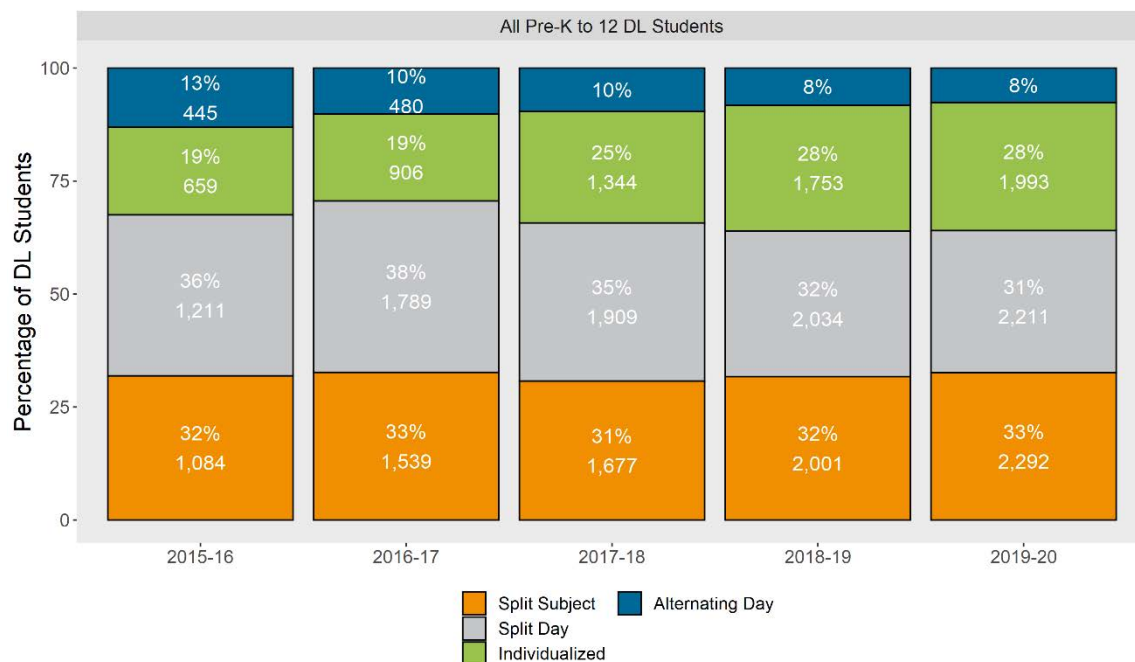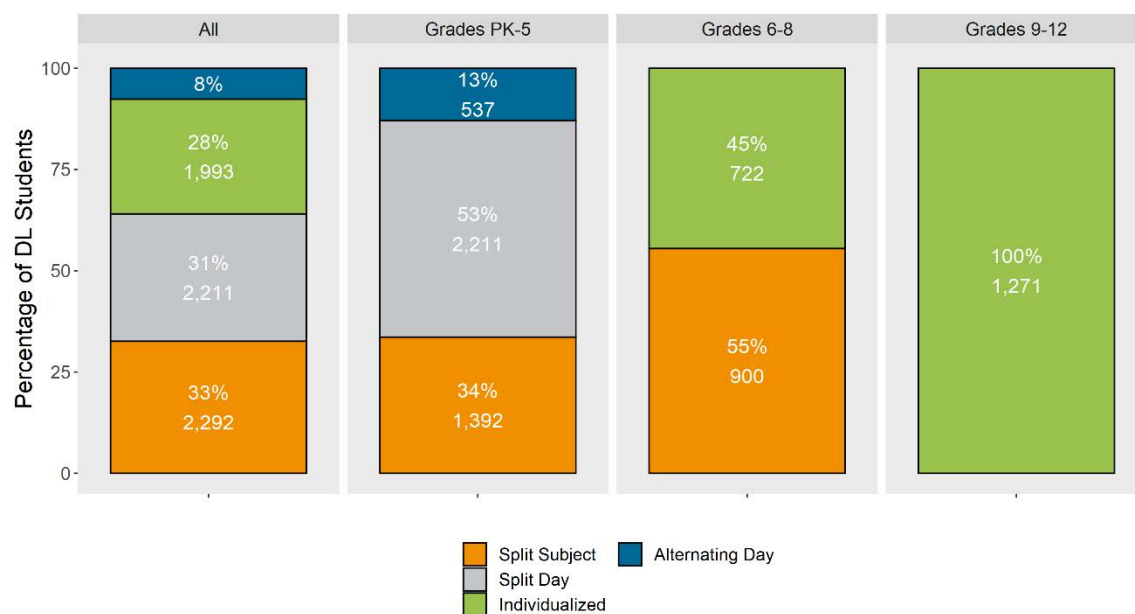Figure E21. Dual Language Program Characteristics: Instructional Approach, by School Year

Figure E22. 2019-20 DC Dual Language Program Characteristics: Instructional Approach, by Grade Band

Appendix F: Dual Language Student Academic Performance and Growth Outcomes

Methodology

Multiple linear regression analysis was conducted to determine the relationship between DL program participation and academic performance, academic growth, and growth in English language proficiency. Specifically, the models included the number of years that students had participated in a DL program across their academic history as of the assessment year. Student characteristics (English learner status, at-risk status, and students with disabilities status) were included in the model, as was student race/ethnicity, grade band, and the school year. The average percentage of the school student population that were English learners, students with disabilities, and students who are at-risk was also included in the model to control for any association between school-level characteristics and performance and growth outcomes.

The primary independent variable of interest across all models was DL program participation. DL program participation was operationalized as the number of years students who ever participated in a DL program between the 2015-16 and 2019-20 school year participated in a DL program during their academic career. Because data were only available from the 2015-16 school year until the 2019-20 school year, an algorithm was used to estimate the number of years of DL program participation. Students who were enrolled in a DL program in grades 1 to 5 in the 2015-16 school year were assumed to have begun enrollment in the DL program in kindergarten. Students enrolled in a DL program in grades 6 to 8 in the 2015-16 school year at Oyster Adams were assumed to have begun enrollment in kindergarten if they were enrolled in Oyster Adams. Students whose first enrollment was in grades 6 to 8 at MacFarland, CHEC, or DCI were assumed to have begun DL program participation in grade 6. Students whose first enrollment was in grades 9 to 12 at CHEC or DCI were assumed to have begun DL program participation in grade 9. Because middle and high school DL programs in DC have a point of entry in grade 6 and 9, it is not possible to assume that there was prior DL program participation for students enrolled in these schools for the first time in the 2015-16 school year.

The R-squared value is reported for each of the models tested. The R-squared represents the proportion of the variance in the dependent variable that can be explained by the independent variables in the model. Therefore, in a model with an R-squared of .10, approximately 10 percent of the variation in student performance and growth can be explained by the number of years students participated in DL programming and the student characteristics and control variables included in the model.

The dependent variable for models examining student academic performance was student-level scale scores on the PARCC ELA and Math assessments. The dependent variable for models examining student academic growth was student growth percentiles on the PARCC ELA and Math assessments. The dependent variable for models examining student growth in English language proficiency was a dichotomous variable providing an indication of whether individual students met their ACCESS growth target on the ACCESS for ELLs 2.0 assessment in a given school year.

School STAR rating was not included in the model due to multicollinearity with student performance and growth outcomes. Instead, separate models were run examining the relationship between DL program participation and academic performance, academic growth, and growth in English language proficiency among schools with 4- and 5-star ratings and schools with 1-, 2-, and 3-star ratings.

Regression Model Results

Academic Performance: Findings

The models examining the association between DL program participation and student-level PARCC ELA scale scores had a significant, high, explanatory power (Grades 3 to 5: R^2 = .39; Grades 6 to12: R^2 = .45). Each year of DL program participation was associated with a .76 increase in PARCC ELA scale scores among students in grades 6 to 12, indicating that, on average, students who participated in DL programming would be expected to have PARCC ELA scale scores approximately 0.8 points higher than students who had not participated in DL programming.

The models examining the association between DL program participation and student-level PARCC Math scale scores had a significant, high, explanatory power (Grades 3 to 5: R^2 = .34; Grades 6 to12: R^2 = .37). Each year of DL program participation was associated with a .55 increase in PARCC Math scale scores among students in grades 6 to 12, indicating that, on average, students who participated in DL programming would be expected to have PARCC Math scale scores approximately 0.6 points higher than students who had not participated in DL programming.

Across grade bands, identification as an English learner, a student with a disability or a student who is at-risk was significantly associated with having a lower PARCC ELA scale score (Figures F1 and F2). The percentage of students who were English learners, students with disabilities, or students who are at-risk at each school was also negatively related to PARCC ELA scale scores; being enrolled at a schools with higher percentages of historically under-served student groups was associated with lower scale scores on the PARCC ELA assessment, on average. (The association between the percentage of students with disabilities at a student's school and their PARCC ELA scale score among students in grades pre-K to 5 was only marginally significant). Further, student race/ethnicity was significantly associated with PARCC ELA scale scores with all racial/ethnic groups having lower scale scores than their White counterparts, on average. Similar findings were observed for student performance on PARCC Math (Figures F3 and F4) with the exception that identifying as Asian was not associated with lower scale scores on PARCC Math across grade bands.

Table F1. Academic Performance (PARCC ELA Scale Score): Grade 3 to 5 Model

ELA Achievement (PARCC ELA Scale Score	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	3.390	0.329	10.308	0.000	***
2017-18	6.149	0.330	18.626	0.000	***
2018-19	7.449	0.334	22.313	0.000	***
SWD Status	-32.571	0.315	-103.345	0.000	***
EL Status	-23.769	0.475	-50.053	0.000	***
At-Risk Status	-8.991	0.268	-33.499	0.000	***
School SWD Percentage	-3.870	2.125	-1.821	0.069	
School EL Percentage	2.877	0.832	3.458	0.001	**
School At-Risk Percentage	-35.606	0.639	-55.738	0.000	***
Asian	-2.759	1.042	-2.648	0.008	**
Black/African-American	-25.605	0.458	-55.915	0.000	***
Latinx/Hispanic of any race	-16.693	0.549	-30.392	0.000	***
Not Black, Latinx, or Asian	-7.600	0.805	-9.439	0.000	***
Years of DL Programming	**-0.242**	**0.100**	**-2.420**	**0.016**	*
Constant	776.947	0.449	1730.487	0.000	***
R-squared		0.386			
ANOVA F-value		5.857	Prob > ANOVA		0.016

*** p<.001, ** p<.01, * p<.05*

Table F2. Academic Performance (PARCC ELA Scale Score): Grade 6 to 12 Model

ELA Achievement (PARCC ELA Scale Score)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	4.346	0.298	14.594	0.000	***
2017-18	7.335	0.298	24.605	0.000	***
2018-19	11.129	0.298	37.404	0.000	***
SWD Status	-28.750	0.283	-101.652	0.000	***
EL Status	-29.719	0.473	-62.852	0.000	***
At-Risk Status	-8.407	0.238	-35.326	0.000	***
School SWD Percentage	-61.082	1.886	-32.380	0.000	***
School EL Percentage	-11.436	0.933	-12.252	0.000	***
School At-Risk Percentage	-41.760	0.725	-57.619	0.000	***
Asian	-6.922	0.918	-7.542	0.000	**
Black/African-American	-29.172	0.435	-67.082	0.000	***
Latinx/Hispanic of any race	-23.856	0.501	-47.626	0.000	***
Not Black, Latinx, or Asian	-11.531	0.841	-13.714	0.000	***
Years of DL Programming	**0.758**	**0.084**	**9.046**	**0.000**	***
Constant	791.954	0.433	1827.917	0.000	***
R-squared		0.446			
ANOVA F-value		81.835	Prob > ANOVA		0.000

*** p<.001, ** p<.01, * p<.05*

Academic Performance (PARCC Math Scale Score): Findings

Table F3. Academic Performance (PARCC Math Scale Score): Grade 3 to 5 Model

Math Achievement (PARCC Math Scale Score)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	2.173	0.316	6.885	0.000	***
2017-18	4.545	0.317	14.332	0.000	***
2018-19	5.618	0.321	17.520	0.000	***
SWD Status	-27.005	0.304	-88.962	0.000	***
EL Status	-16.855	0.445	-37.856	0.000	***
At-Risk Status	-8.573	0.258	-33.283	0.000	***
School SWD Percentage	-14.364	2.047	-7.016	0.000	***
School EL Percentage	2.191	0.796	2.754	0.006	***
School At-Risk Percentage	-27.638	0.614	-45.043	0.000	***
Asian	0.846	0.978	0.865	0.387	
Black/African-American	-25.194	0.440	-57.239	0.000	***
Latinx/Hispanic of any race	-17.260	0.525	-32.845	0.000	***
Not Black, Latinx, or Asian	-7.836	0.775	-10.112	0.000	***
Years of DL Programming	**-1.216**	**0.096**	**-12.690**	**0.000**	***
Constant	777.867	0.431	1804.226	0.000	***
R-squared		0.335			
ANOVA F-value		161.034	Prob > ANOVA		0.000

*** p<.001, ** p<.01, * p<.05*

Table F4. Academic Performance (PARCC Math Scale Score): Grade 6 to 12 Model

Math Achievement (PARCC Math Scale Score)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	2.215	0.249	8.884	0.000	***
2017-18	4.489	0.250	17.963	0.000	***
2018-19	4.181	0.249	16.780	0.000	***
SWD Status	-19.272	0.236	-81.575	0.000	***
EL Status	-17.742	0.381	-46.565	0.000	***
At-Risk Status	-6.010	0.200	-30.102	0.000	***
School SWD Percentage	-26.841	1.597	-16.809	0.000	***
School EL Percentage	-7.813	0.779	-10.030	0.000	***
School At-Risk Percentage	-33.412	0.610	-54.766	0.000	***
Asian	-0.782	0.784	-0.997	0.319	
Black/African-American	-24.971	0.377	-66.301	0.000	***
Latinx/Hispanic of any race	-20.941	0.429	-48.775	0.000	***
Not Black, Latinx, or Asian	-9.019	0.724	-12.450	0.000	***
Years of DL Programming	**0.554**	**0.072**	**7.724**	**0.000**	***
Constant	769.851	0.372	2071.252	0.000	***
R-squared		0.369			
ANOVA F-value		59.661	Prob > ANOVA		0.000

*** p<.001, ** p<.01, * p<.05*

Academic Growth: Findings

The model examining the association between DL program participation and PARCC ELA SGPs had a significant, though small, explanatory power among students in grades 3 to 5 (R^2 = .07). Among students in grades pre-K to 5, each year of DL program participation was associated with an 0.95 increase in PARCC ELA SGPs, indicating that, on average, students who participated in DL programming had an SGP for PARCC ELA 1-point higher than students who had not participated in DL programming.

The model examining the association between DL program participation and PARCC ELA SGPs had a significant, though small, explanatory power among students in grades 3 to 5 (R^2 = .03). Among students in grades pre-K to 5, each year of DL program participation was associated with an 0.41 increase in PARCC ELA SGPs, indicating that, on average, students who participated in DL programming had an SGP for PARCC ELA 0.4-points higher than students who had not participated in DL programming.

Regression Model Discussion

Only a limited number of school-level factors were available to be examined, however DL program participation was positively associated with student performance on PARCC ELA and Math among students in grades 6 to 12 and was positively associated student growth on PARCC ELA and Math among students in grades 4 and 5. Future research may want to examine additional school-level factors to better understand what specific components of DL programs are associated with higher levels of performance on the PARCC ELA assessment and higher levels of growth on both the PARCC ELA and Math assessments. Given that DL programs in DC are more likely to have 4- or 5-star ratings on the STAR Framework, it is difficult to determine whether the observed associations between DL program participation and student performance and growth outcomes can be explained by aspects of the DL program model. In particular, the variables included in the regression models exploring growth explained a relatively small amount of observed variation in student-level growth on PARCC ELA and Math. Investigation of additional school-, classroom-, and student-level factors may help to more fully explain the different levels of median growth on PARCC ELA and Math observed between students participating and not participating in DL programs.

Table F5. Academic Growth (PARCC ELA SGP): Grade 4 to 5 Model

ELA Growth (PARCC ELA SGP)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	3.381	0.390	8.667	0.000	***
2017-18	3.087	0.391	7.892	0.000	***
2018-19	3.514	0.395	8.900	0.000	***
SWD Status	-9.785	0.367	-26.665	0.000	***
EL Status	-3.574	0.581	-6.156	0.000	***
At-Risk Status	-1.171	0.315	-3.721	0.000	***
School SWD Percentage	-9.304	2.518	-3.694	0.000	***
School EL Percentage	9.758	0.978	9.980	0.000	***
School At-Risk Percentage	-7.869	0.747	-10.532	0.000	***
Asian	0.590	1.247	0.473	0.636	
Black/African-American	-8.633	0.540	-15.989	0.000	***
Latinx/Hispanic of any race	-4.368	0.646	-6.763	0.000	***
Not Black, Latinx, or Asian	-2.451	0.958	-2.557	0.011	*
Years of DL Programming	**0.952**	**0.107**	**8.869**	**0.000**	***
Constant	62.325	0.536	116.356	0.000	***
R-squared		0.070			
ANOVA F-value		78.667	Prob > ANOVA		0.000

*** p<.001, ** p<.01, * p<.05*

Table F6. Academic Growth (PARCC ELA SGP): Grade 6 to 12 Model

ELA Growth (PARCC ELA SGP)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	3.261	0.363	8.987	0.000	***
2017-18	1.179	0.343	3.436	0.001	**
2018-19	2.741	0.340	8.054	0.000	***
SWD Status	-6.545	0.317	-20.633	0.000	***
EL Status	0.756	0.576	1.312	0.189	
At-Risk Status	-1.673	0.270	-6.197	0.000	***
School SWD Percentage	-26.620	2.252	-11.823	0.000	***
School EL Percentage	6.128	1.054	5.812	0.000	***
School At-Risk Percentage	-2.877	0.780	-3.690	0.000	***
Asian	3.346	1.034	3.236	0.001	**
Black/African-American	-5.258	0.480	-10.959	0.000	***
Latinx/Hispanic of any race	-4.145	0.555	-7.463	0.000	***
Not Black, Latinx, or Asian	-2.161	0.905	-2.388	0.017	*
Years of DL Programming	-0.105	0.084	-1.240	0.215	
Constant	61.375	0.494	124.235	0.000	***
R-squared		0.034			
ANOVA F-value		1.537	Prob > ANOVA		0.215

*** p<.001, ** p<.01, * p<.05*

Table F7. Academic Growth (PARCC Math SGP): Grade 4 to 5 Model

Math Growth (PARCC Math SGP)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	1.124	0.403	2.793	0.005	**
2017-18	1.379	0.404	3.417	0.001	**
2018-19	1.528	0.408	3.747	0.000	***
SWD Status	-2.103	0.380	-5.535	0.000	***
EL Status	-0.121	0.588	-0.206	0.837	
At-Risk Status	-1.337	0.325	-4.115	0.000	***
School SWD Percentage	-20.016	2.606	-7.679	0.000	***
School EL Percentage	10.850	1.007	10.772	0.000	***
School At-Risk Percentage	-2.174	0.772	-2.816	0.005	**
Asian	1.875	1.270	1.477	0.140	
Black/African-American	-7.869	0.558	-14.101	0.000	***
Latinx/Hispanic of any race	-4.746	0.666	-7.130	0.000	***
Not Black, Latinx, or Asian	-2.412	0.992	-2.432	0.015	*
Years of DL Programming	**0.407**	**0.111**	**3.673**	**0.000**	***
Constant	59.497	0.553	107.622	0.000	***
R-squared		0.032			
ANOVA F-value		13.489	Prob > ANOVA		0.000

*** p<.001, ** p<.01, * p<.05*

Table F8. Academic Growth (PARCC Math SGP): Grade 6 to 12 Model

Math Growth (PARCC Math SGP)	Coeff.	St.Err.	t-value	p-value	Sig
2016-17	-4.580	0.379	-12.084	0.000	***
2017-18	-1.477	0.359	-4.120	0.000	***
2018-19	-1.406	0.358	-3.932	0.000	***
SWD Status	-4.598	0.323	-14.216	0.000	***
EL Status	-0.234	0.562	-0.416	0.677	
At-Risk Status	-1.986	0.276	-7.194	0.000	***
School SWD Percentage	-16.647	2.296	-7.249	0.000	***
School EL Percentage	1.297	1.069	1.213	0.225	
School At-Risk Percentage	-5.789	0.804	-7.204	0.000	***
Asian	1.841	1.087	1.694	0.090	
Black/African-American	-5.672	0.507	-11.181	0.000	***
Latinx/Hispanic of any race	-4.463	0.584	-7.648	0.000	***
Not Black, Latinx, or Asian	-2.303	0.952	-2.419	0.016	*
Years of DL Programming	-0.128	0.089	-1.441	0.150	
Constant	62.094	0.531	116.838	0.000	***
R-squared		0.028			
ANOVA F-value		2.076	Prob > ANOVA		0.150

*** p<.001, ** p<.01, * p<.05*

Growth in English Language Proficiency (ACCESS Growth Target Met): Findings

Finally, for ACCESS growth, the factors explored in the model were not associated with English Language Proficiency – that is, meeting ACCESS growth targets.

Table F9. Growth in English Language Proficiency (ACCESS Growth Target Met): Grade 1 to 5 Model

Growth in English Language Proficiency (ACCESS Growth Target Met)	Coeff.	St.Err.	t-value	p-value	Sig
2018-19	-0.141	0.012	-12.023	0.000	***
SWD Status	-0.068	0.014	-4.820	0.000	***
At-Risk Status	-0.037	0.012	-3.095	0.002	**
School SWD Percentage	0.031	0.128	0.246	0.805	
School EL Percentage	-0.034	0.030	-1.147	0.252	
School At-Risk Percentage	0.043	0.046	0.944	0.345	
Asian	0.007	0.044	0.154	0.877	
Black/African-American	-0.165	0.037	-4.531	0.000	***
Latinx/Hispanic of any race	-0.137	0.034	-4.054	0.000	***
Not Black, Latinx, or Asian	-0.035	0.060	-0.572	0.567	*
Years of DL Programming	0.001	0.004	0.176	0.861	
Constant	0.663	0.034	19.245	0.000	***
R-squared		0.029			
ANOVA F-value		0.031	Prob > ANOVA		0.861

*** p<.001, ** p<.01, * p<.05

Table F10. Growth in English Language Proficiency (ACCESS Growth Target Met): Grade 6 to 12 Model

Growth in English Language Proficiency (ACCESS Growth Target Met)	Coeff.	St.Err.	t-value	p-value	Sig
2018-19	-0.172	0.014	-12.021	0.000	***
SWD Status	-0.185	0.018	-10.408	0.000	***
At-Risk Status	0.005	0.014	0.324	0.746	
School SWD Percentage	-0.337	0.143	-2.364	0.018	*
School EL Percentage	-0.117	0.048	-2.412	0.016	
School At-Risk Percentage	0.095	0.056	1.687	0.092	
Asian	-0.072	0.066	-1.080	0.280	
Black/African-American	-0.184	0.056	-3.274	0.001	**
Latinx/Hispanic of any race	-0.143	0.053	-2.717	0.007	**
Not Black, Latinx, or Asian	-0.211	0.095	-2.227	0.026	*
Years of DL Programming	0.005	0.004	1.299	0.194	
Constant	0.623	0.055	11.281	0.000	***
R-squared		0.069			
ANOVA F-value		1.688	Prob > ANOVA		0.194

*** p<.001, ** p<.01, * p<.05

Dual Language Student Academic Performance in ELA

All Students

Figure F1. Academic Performance (PARCC ELA 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
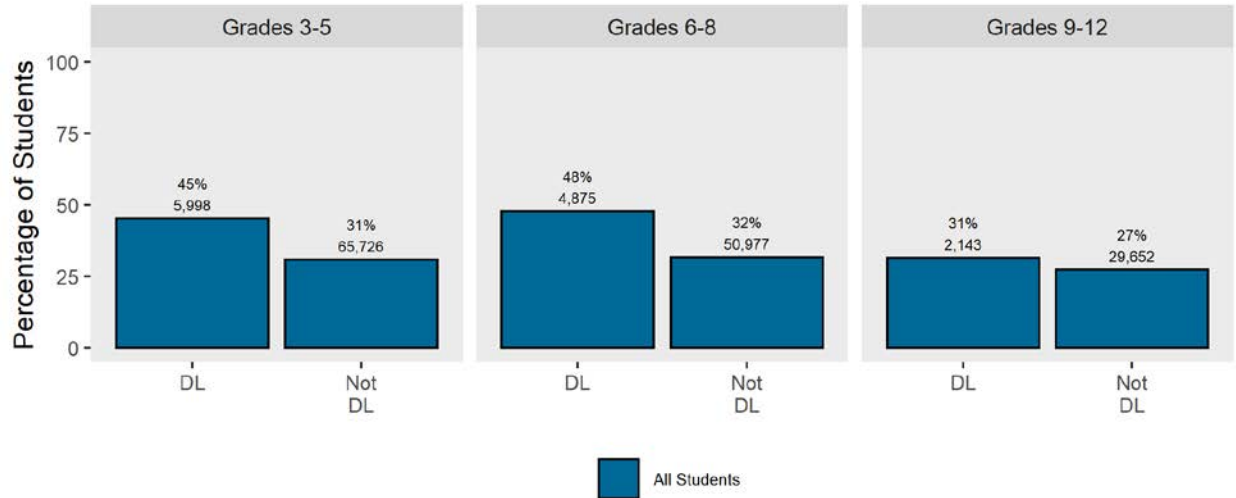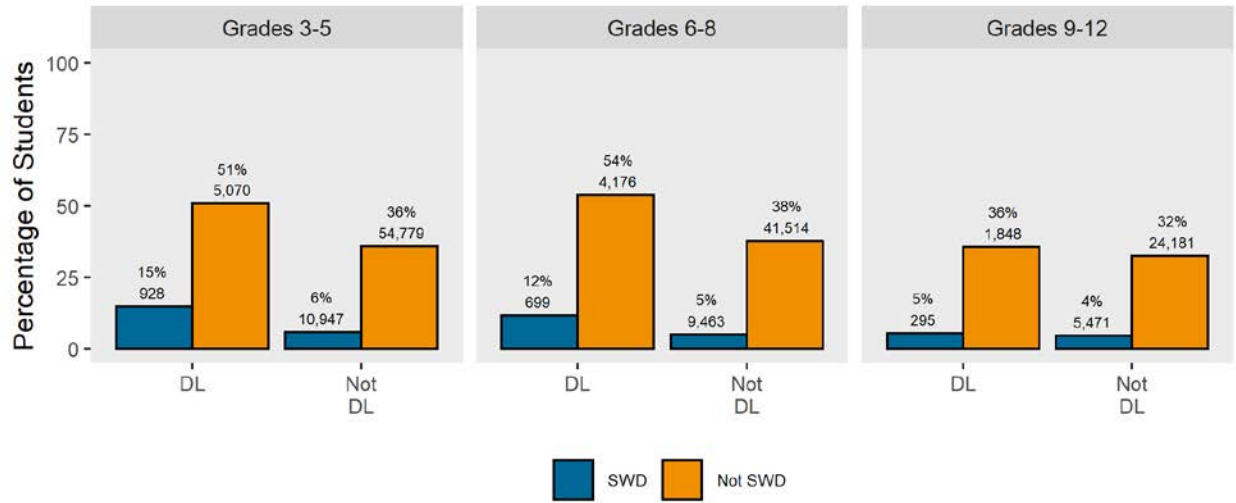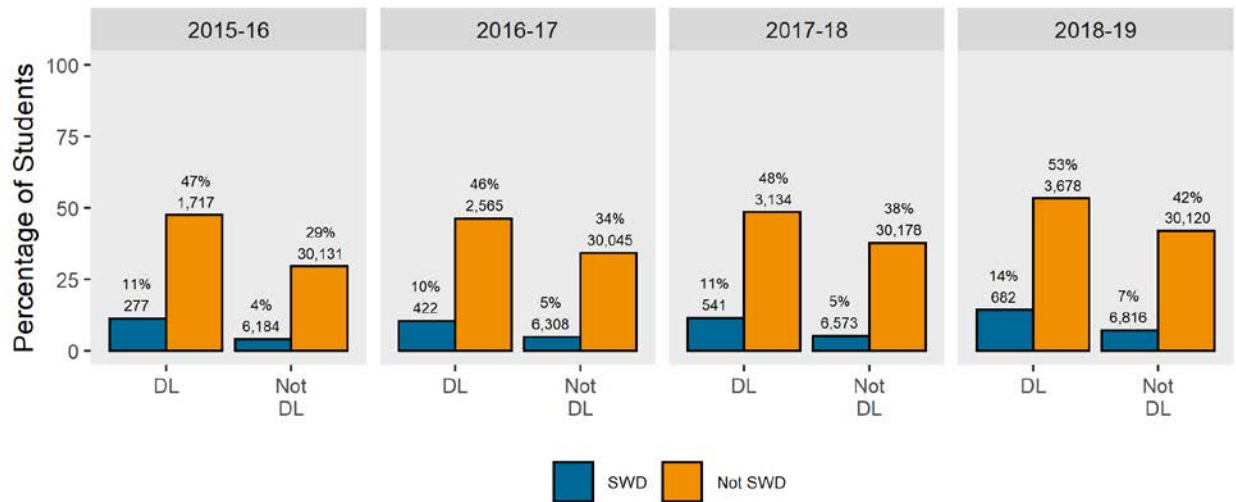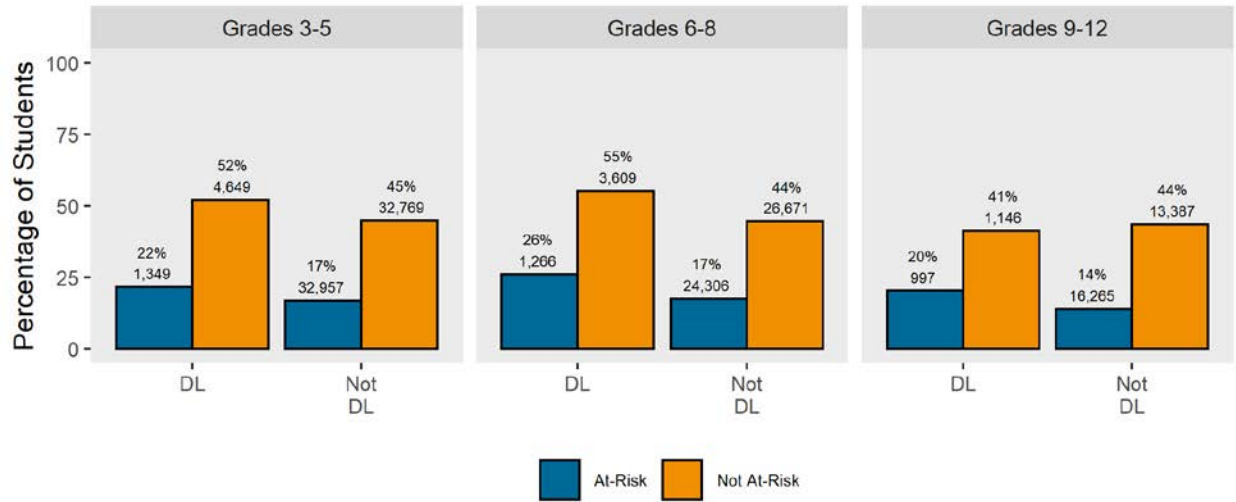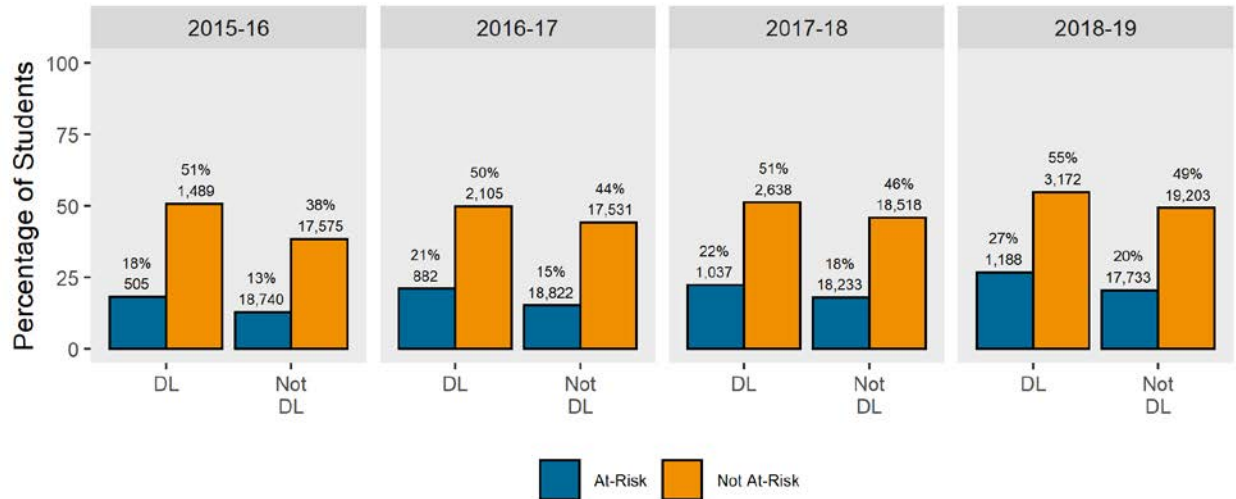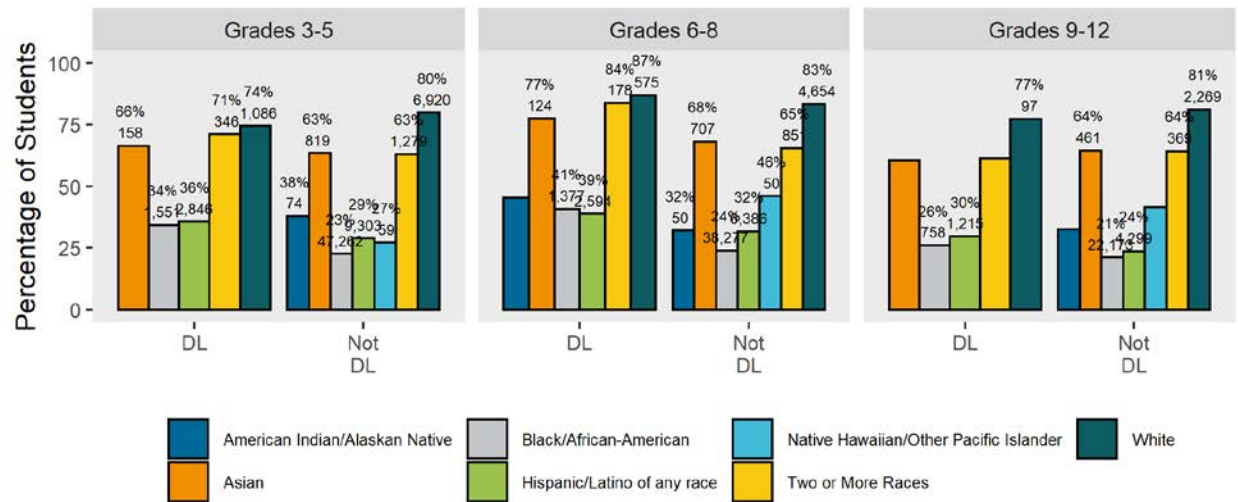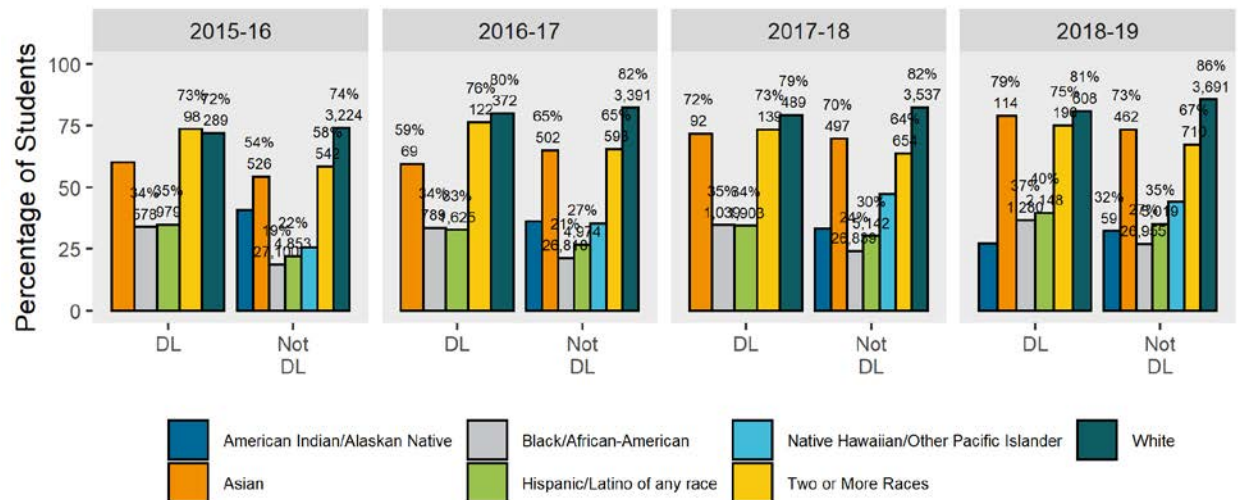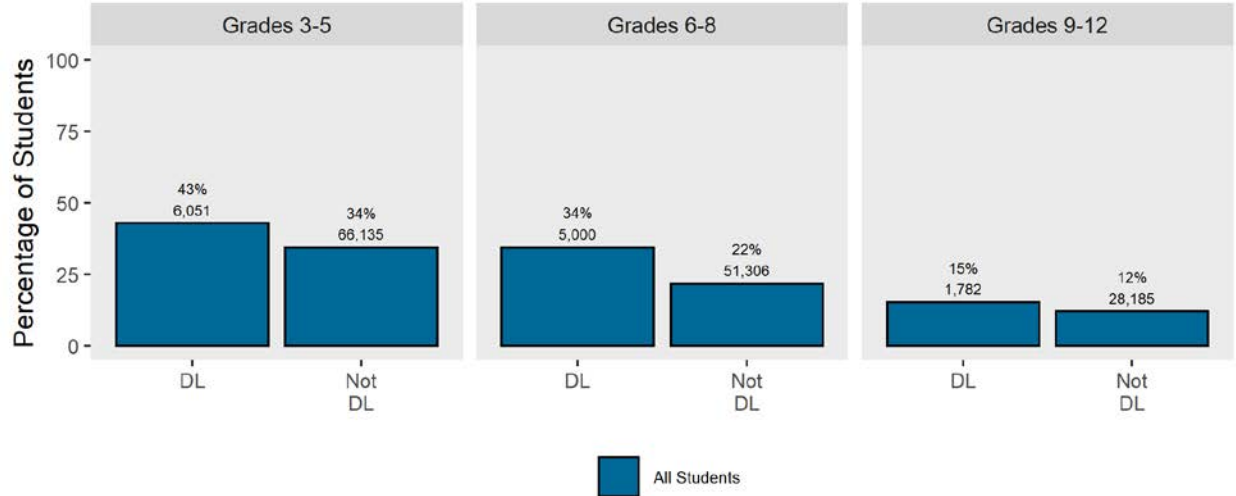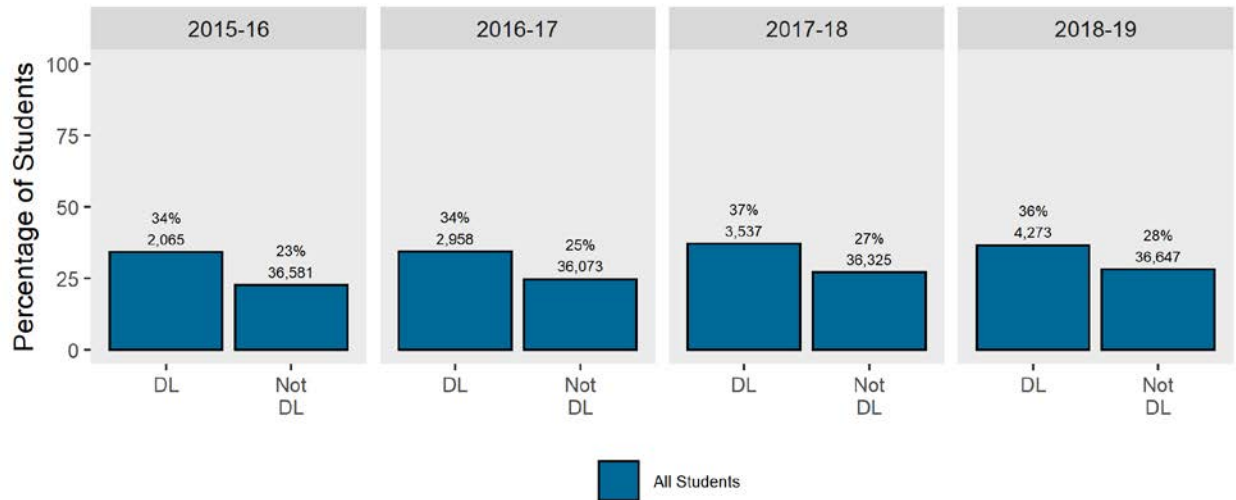

Figure F2. Academic Performance (PARCC ELA 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
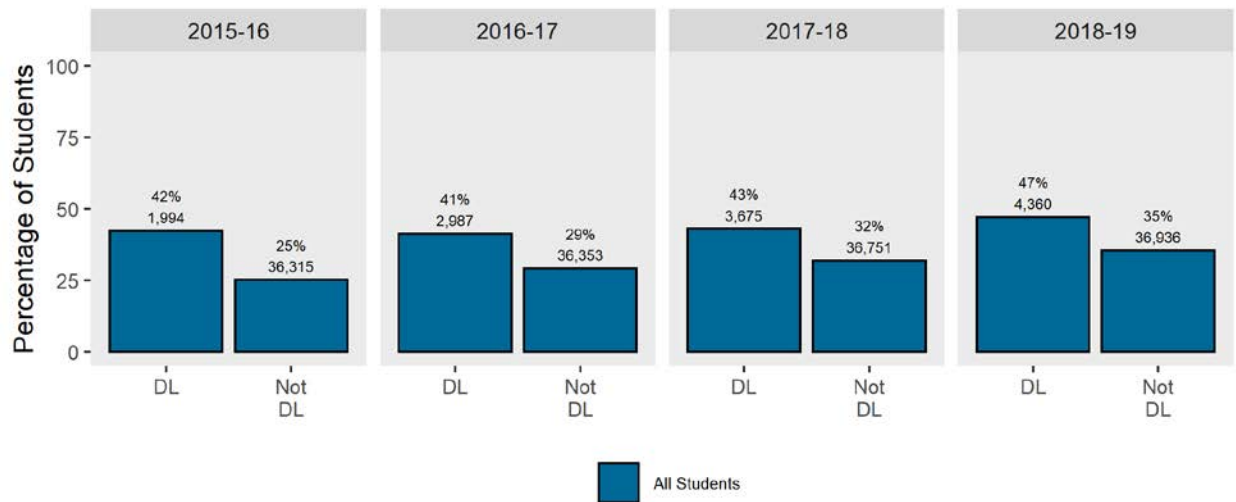
English Learners

Figure F3. Academic Performance (PARCC ELA 4+) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
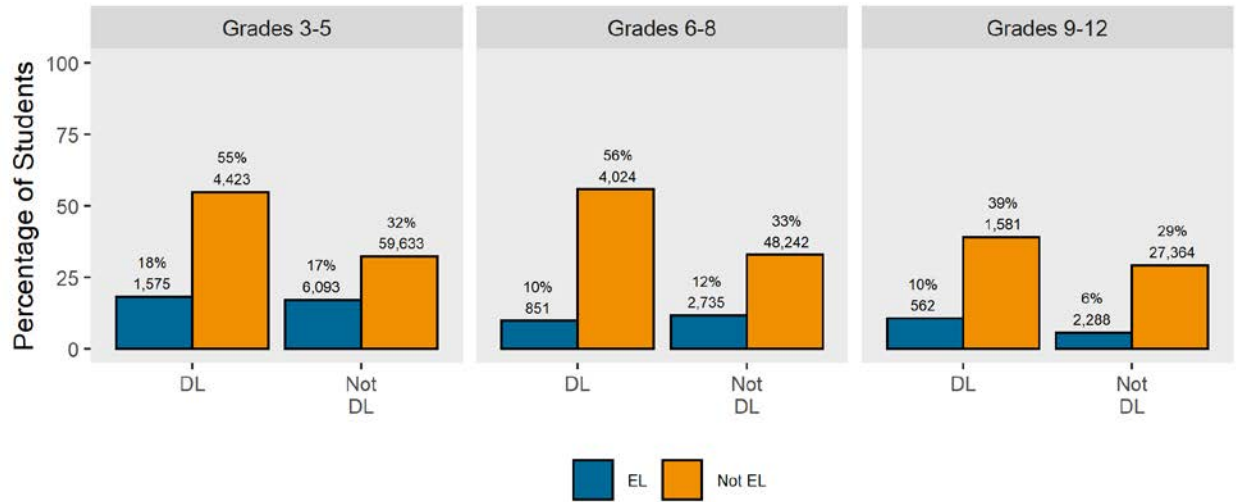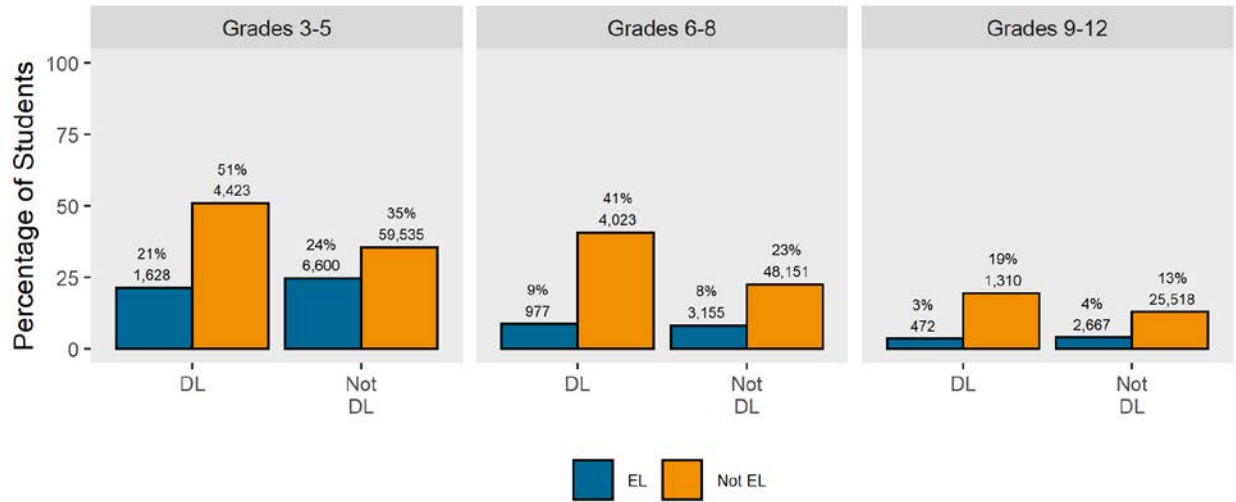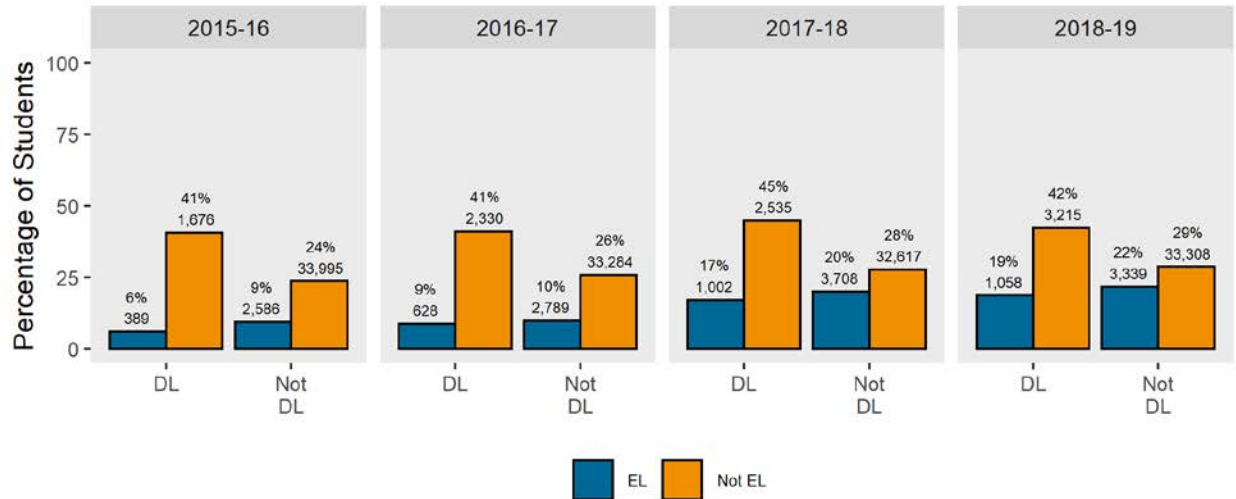

Figure F4. Academic Performance (PARCC ELA 4+) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
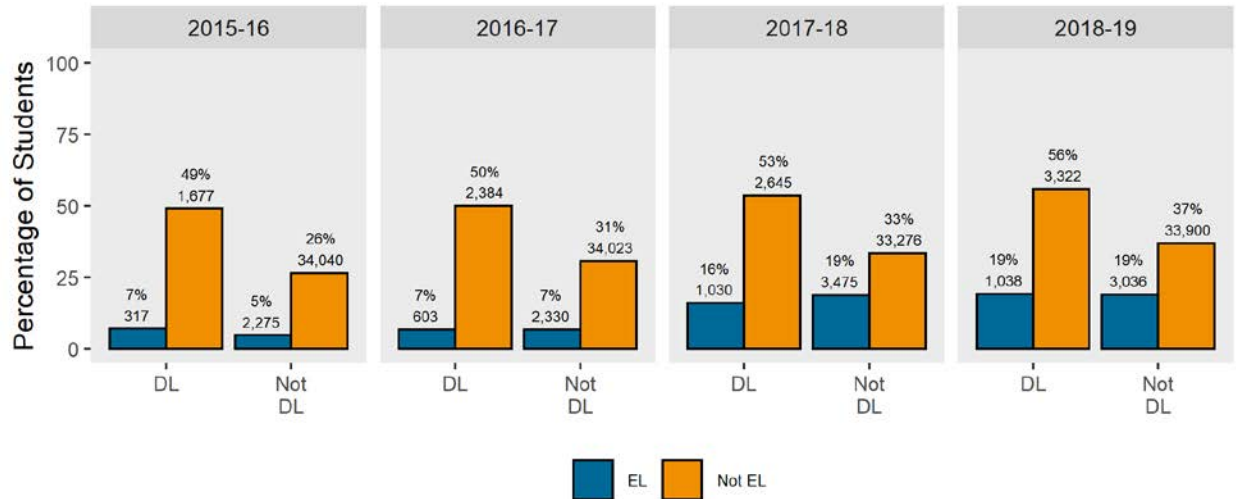
Students with Disabilities

Figure F5. Academic Performance (PARCC ELA 4+) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
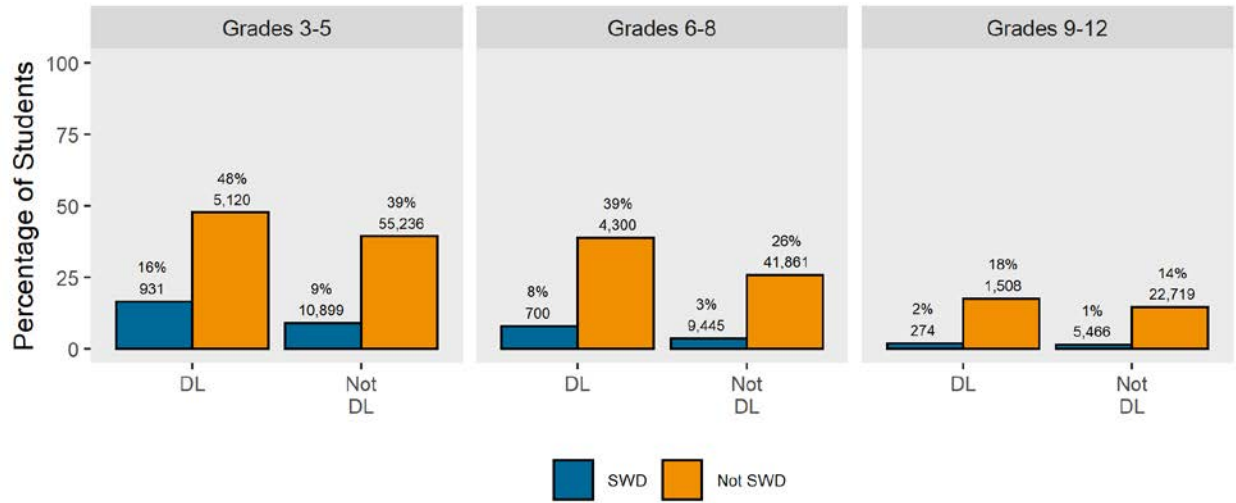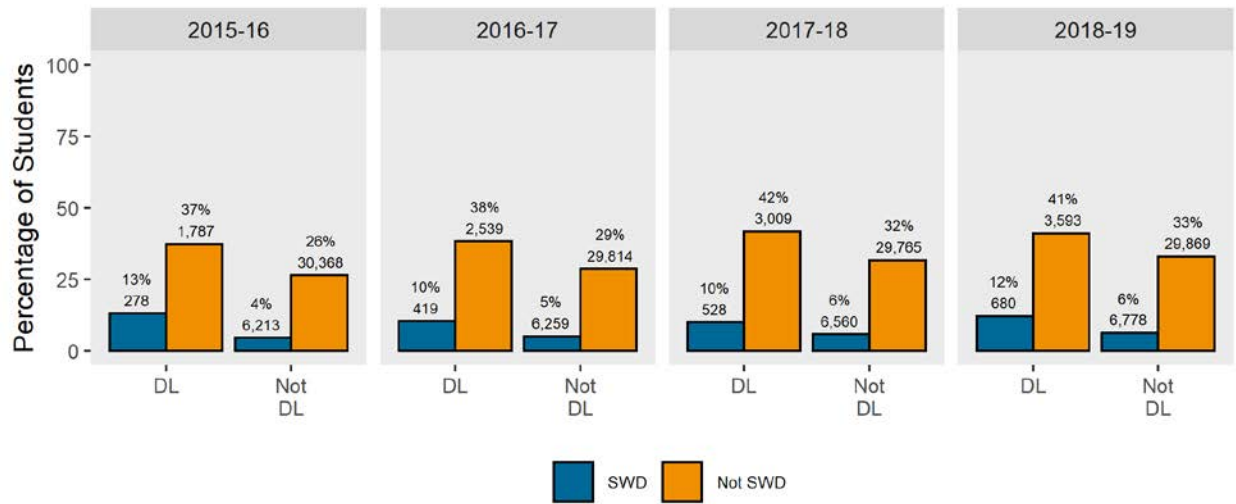

Figure F6. Academic Performance (PARCC ELA 4+) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Students who are At-Risk

Figure F7. Academic Performance (PARCC ELA 4+) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
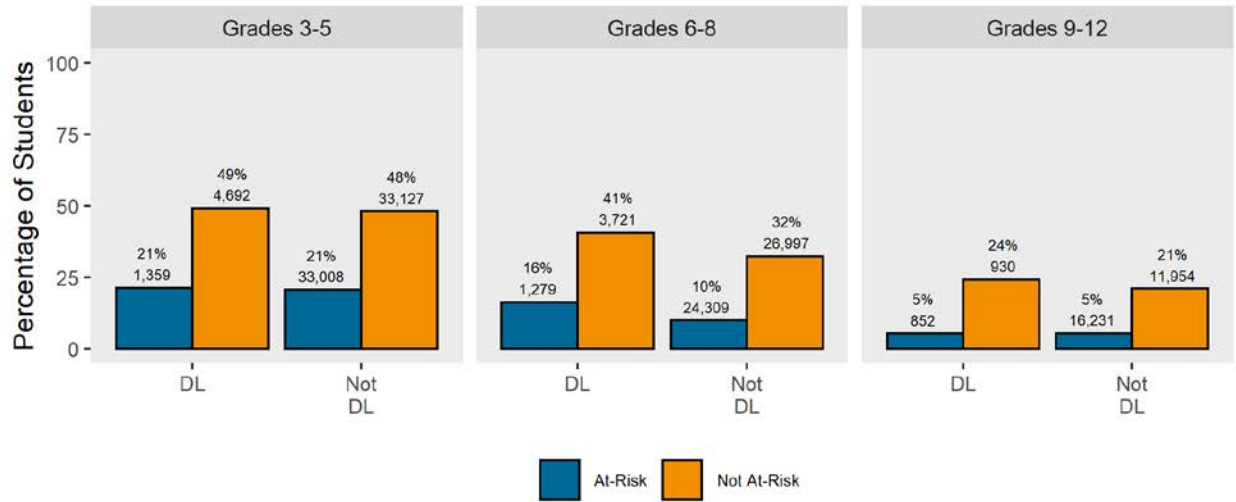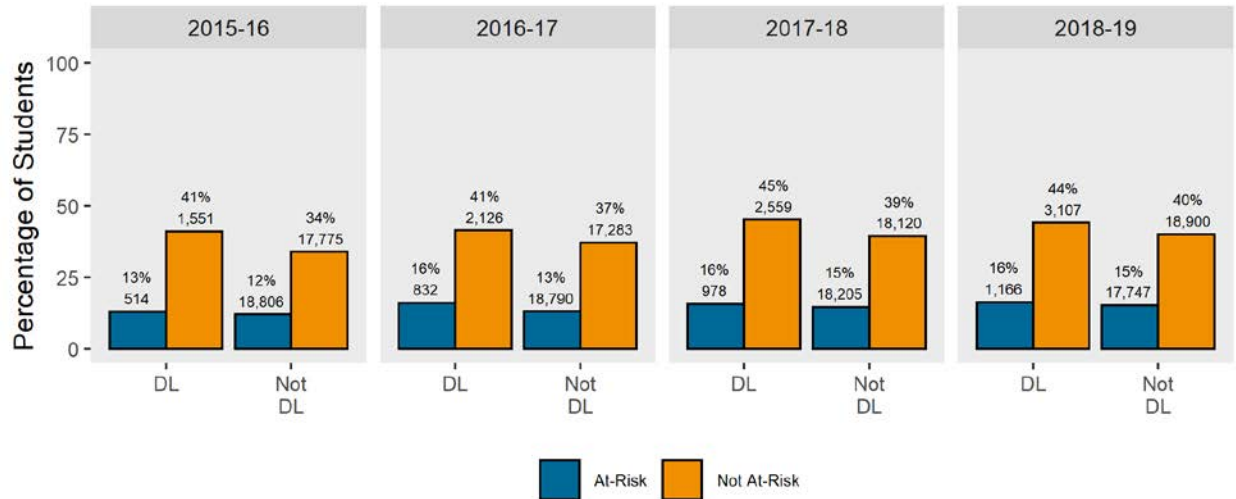

Figure F8. Academic Performance (PARCC ELA 4+) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Student Race/Ethnicity

Figure F9. Academic Performance (PARCC ELA 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and Grade Band

Figure F10. Academic Performance (PARCC ELA 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and School Year

Dual Language Student Academic Performance in Math

All Students

Figure F11. Academic Performance (PARCC Math 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
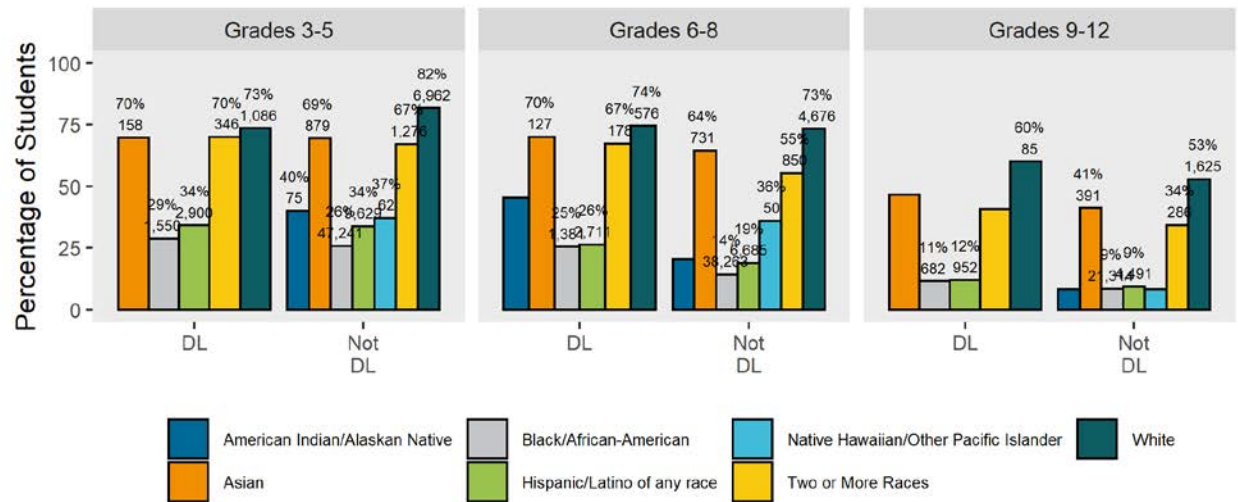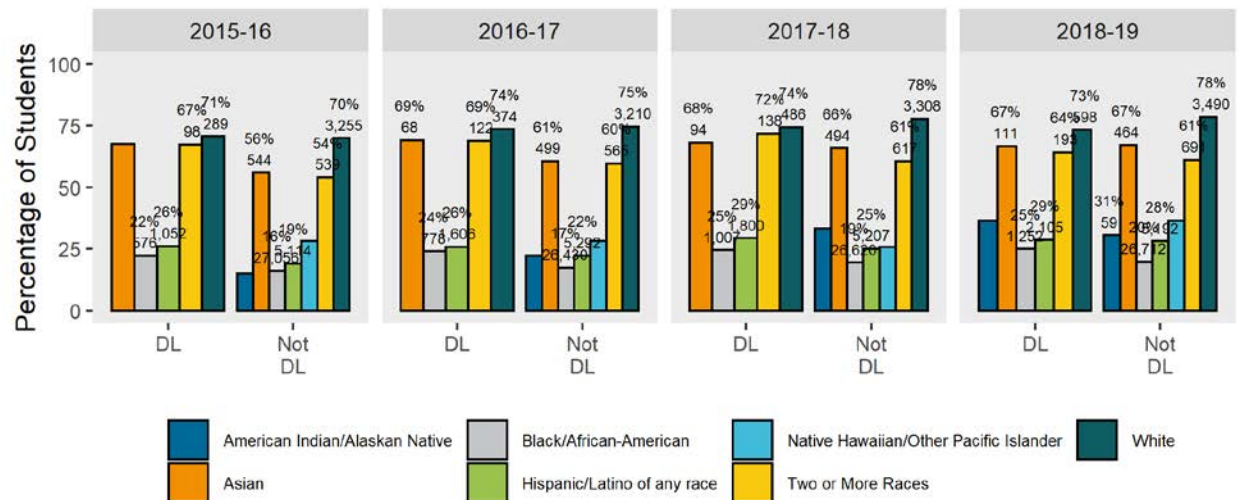

Figure F12. Academic Performance (PARCC Math 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

English Learners

Figure F13. Academic Performance (PARCC Math 4+) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band

Figure F14. Academic Performance (PARCC Math 4+) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Students with Disabilities

Figure F15. Academic Performance (PARCC Math 4+) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band

Figure F16. Academic Performance (PARCC Math 4+) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Students who are At-Risk

Figure F17. Academic Performance (PARCC Math 4+) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band

Figure F18. Academic Performance (PARCC Math 4+) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Student Race/Ethnicity

Figure F19. Academic Performance (PARCC Math 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and Grade Band


Figure F20. Academic Performance (PARCC Math 4+) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and School Year

Dual Language Student Academic Growth in ELA

All Students

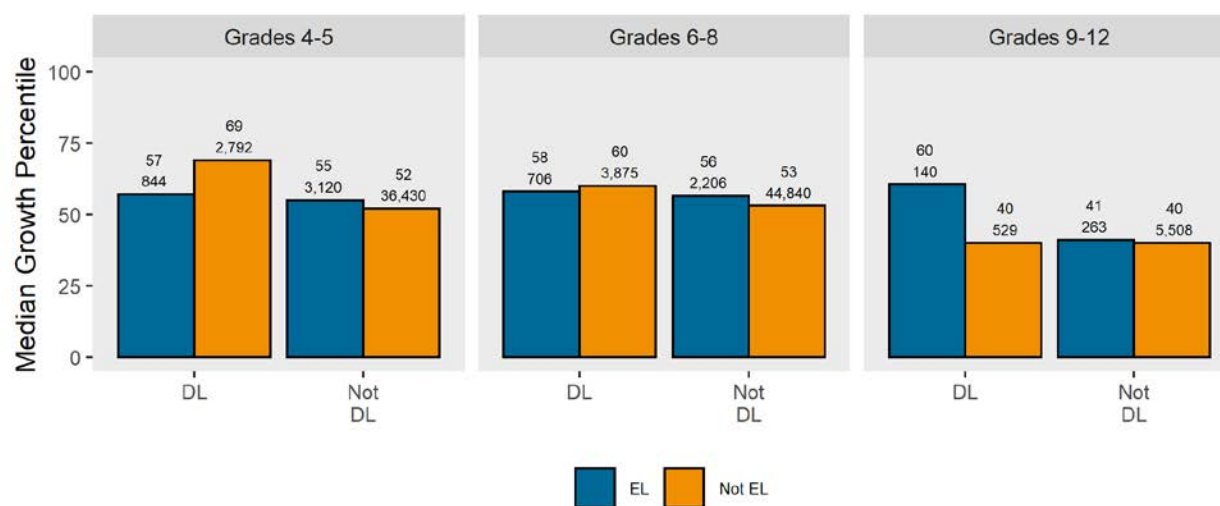Figure F21. Academic Growth (PARCC ELA MGPs) among All Students Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
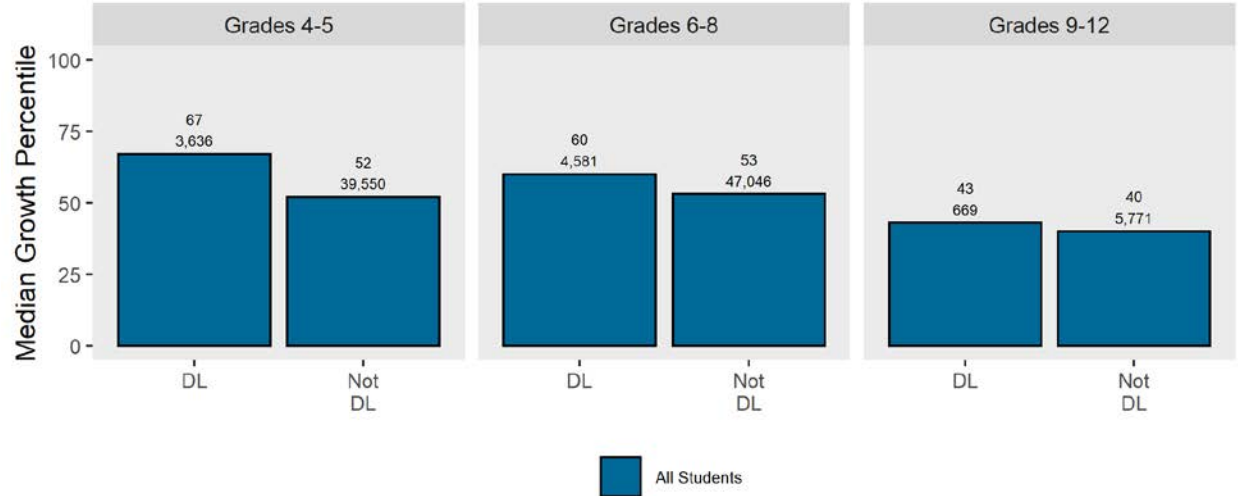
Figure F22. Academic Growth (PARCC ELA MGPs) among All Students Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
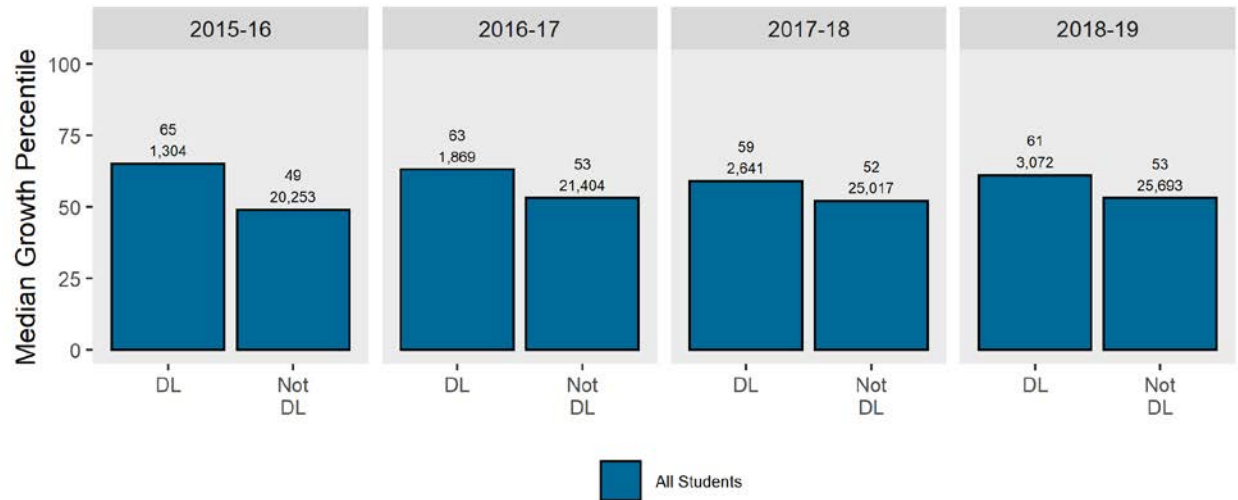
English Learners

Figure F23. Academic Growth (PARCC ELA MGPs) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
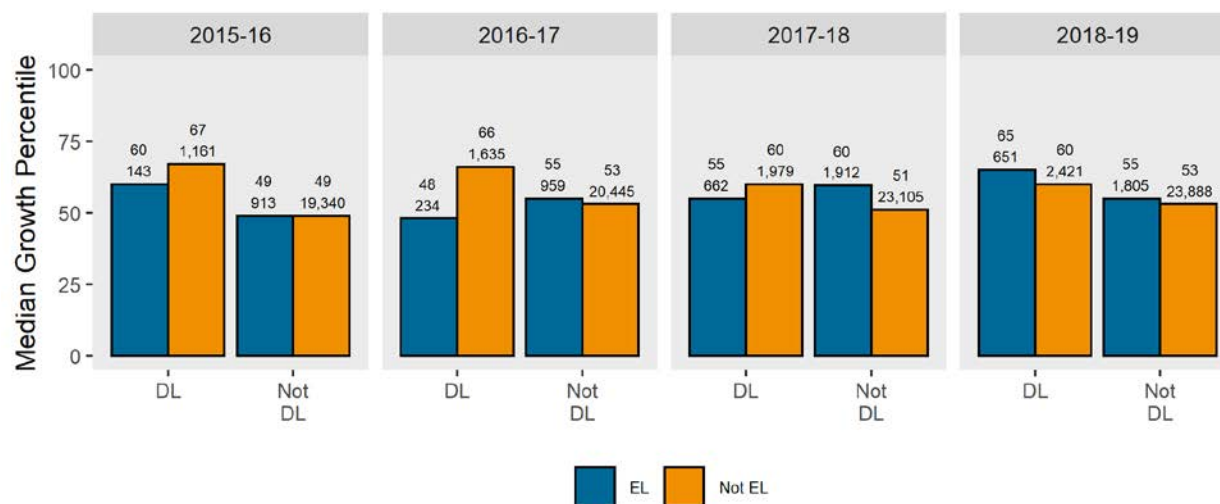

Figure F24. Academic Growth (PARCC ELA MGPs) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Students with Disabilities

Figure F25. Academic Growth (PARCC ELA MGPs) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
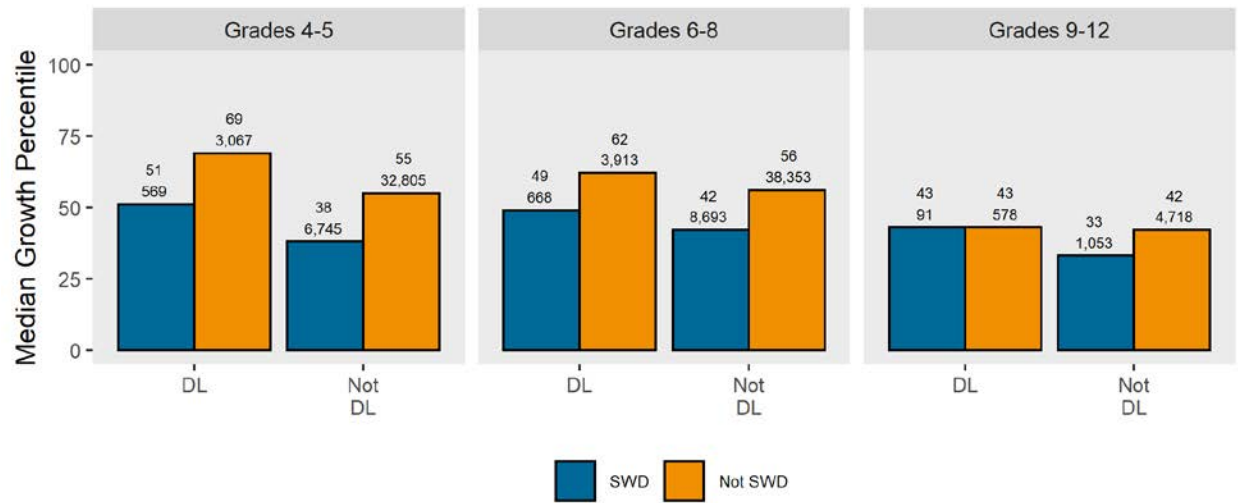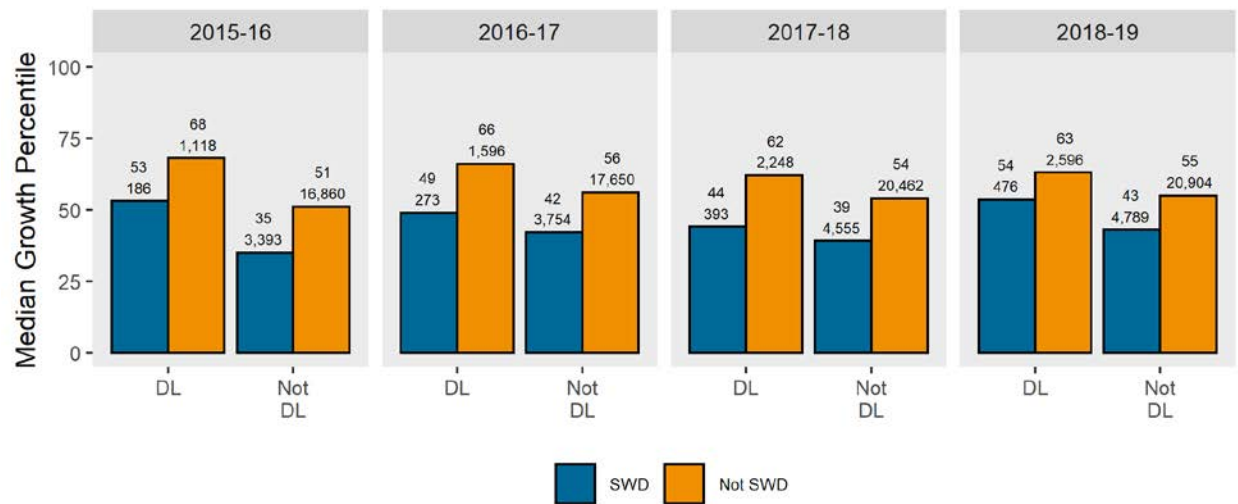

Figure F26. Academic Growth (PARCC ELA MGPs) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Students who are At-Risk

Figure F27. Academic Growth (PARCC ELA MGPs) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
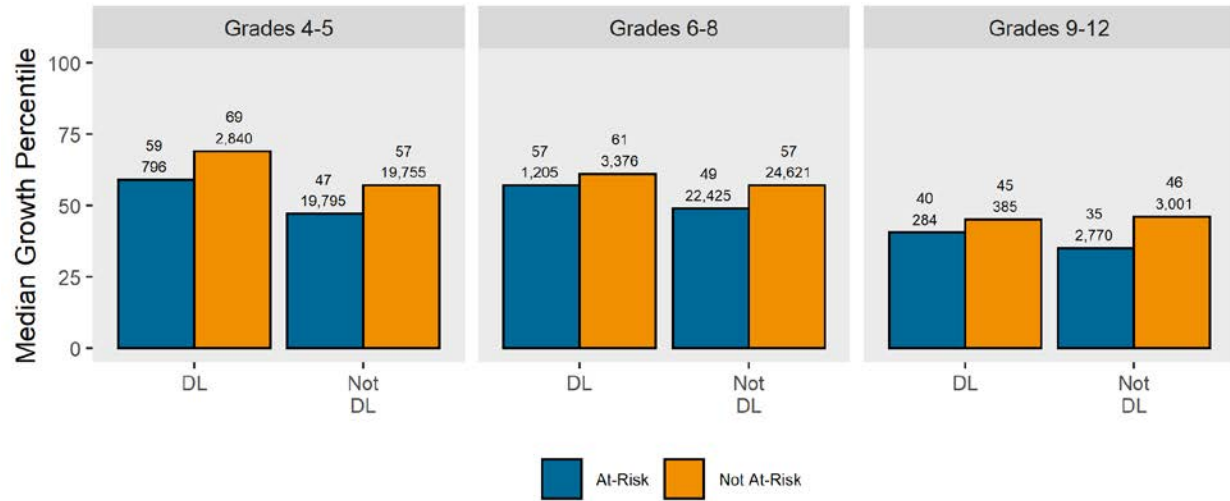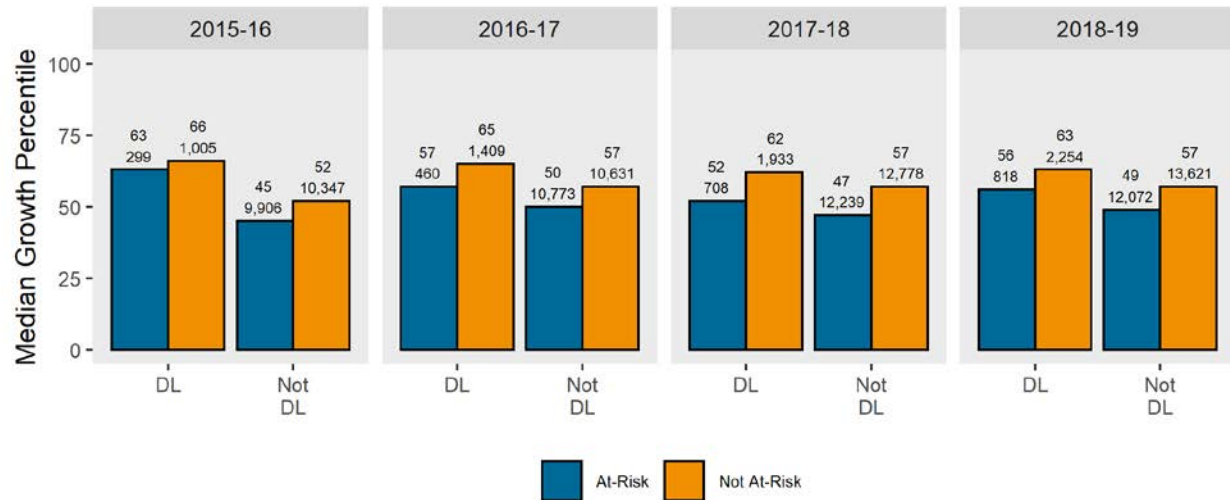

Figure F28. Academic Growth (PARCC ELA MGPs) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

Student Race/Ethnicity

Figure F29. Academic Growth (PARCC ELA MGPs) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and Grade Band
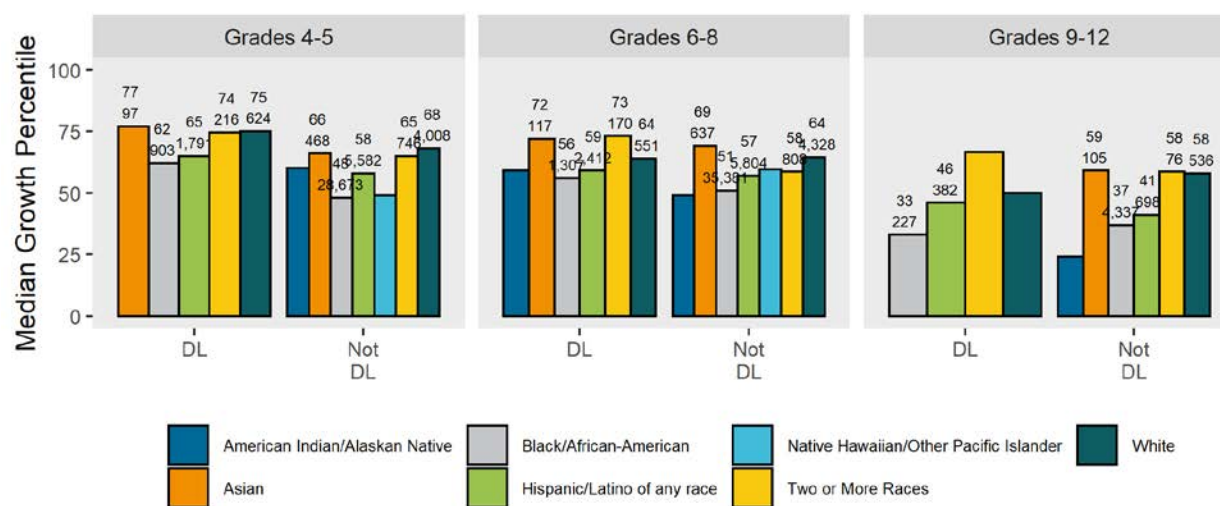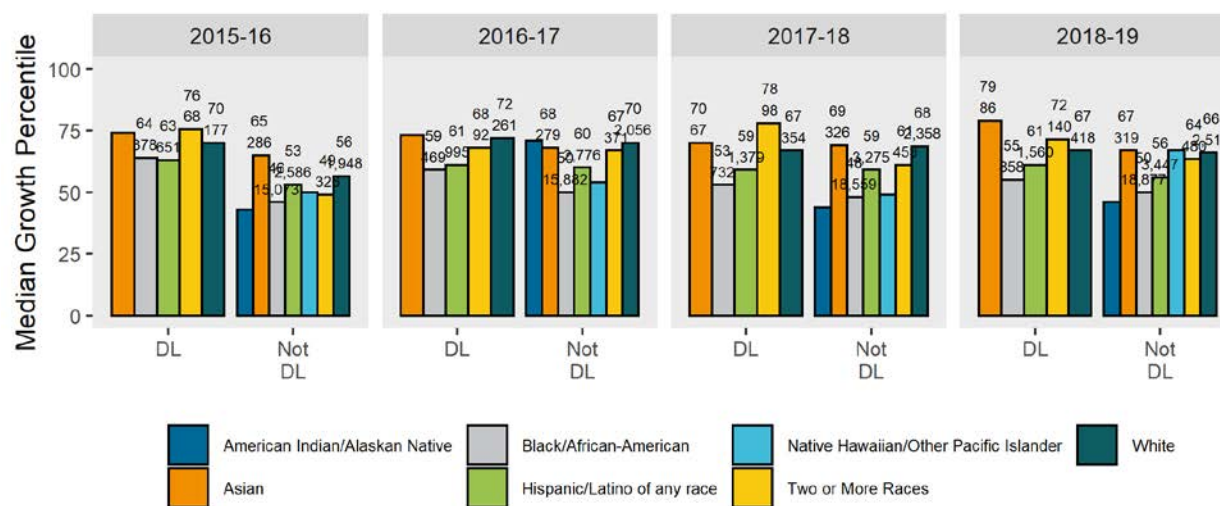

Figure F30. Academic Growth (PARCC ELA MGPs) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and School Year

Dual Language Student Academic Growth in Math

All Students

Figure F31. Academic Growth (PARCC Math MGPs) among All Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band

Figure F32. Academic Growth (PARCC Math MGPs) among All Students Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

English Learners

Figure F33. Academic Growth (PARCC Math MGPs) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
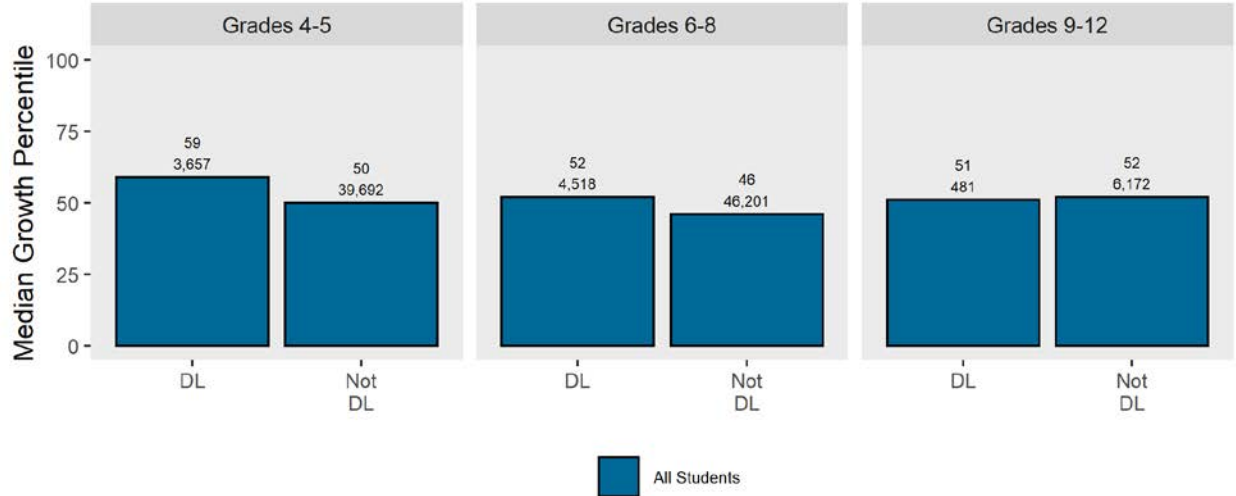

Figure F34. Academic Growth (PARCC Math MGPs) among English Learners Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
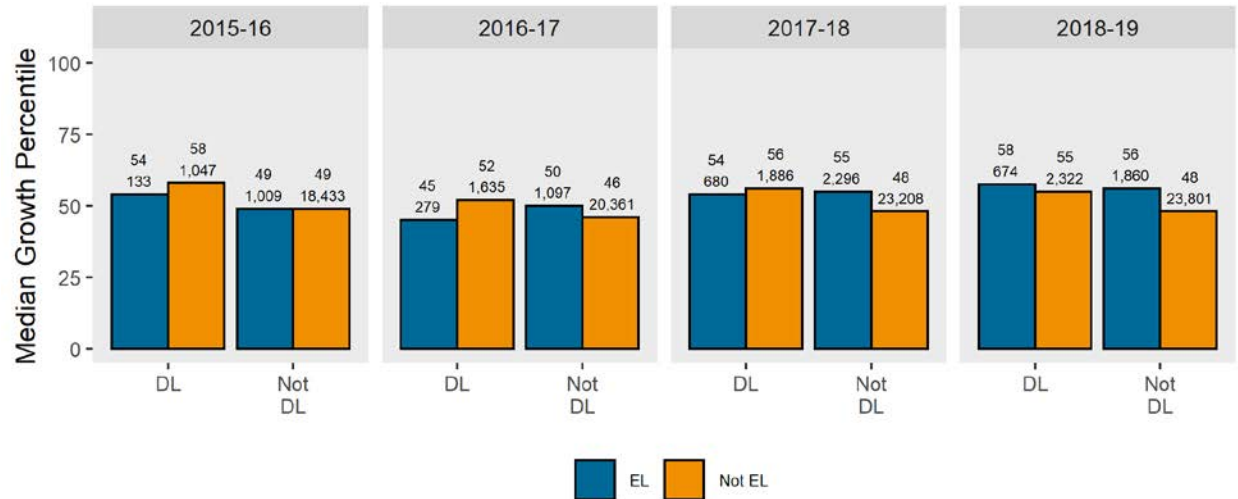
Students with Disabilities

Students with disabilities had lower median levels of growth in math than students without disabilities across all grade bands. Among students in grades 4 to 5, DL participants with disabilities had higher median levels of growth in math than non-participants – both with and without disabilities. In contrast to findings for other student groups, DL participants with disabilities in grades 9 to 12 demonstrated lower median levels of growth in math compared to non-participants with disabilities, however due to the small sample size, these findings should be interpreted with caution.

Figure F35. Academic Growth (PARCC Math MGPs) among Students with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band
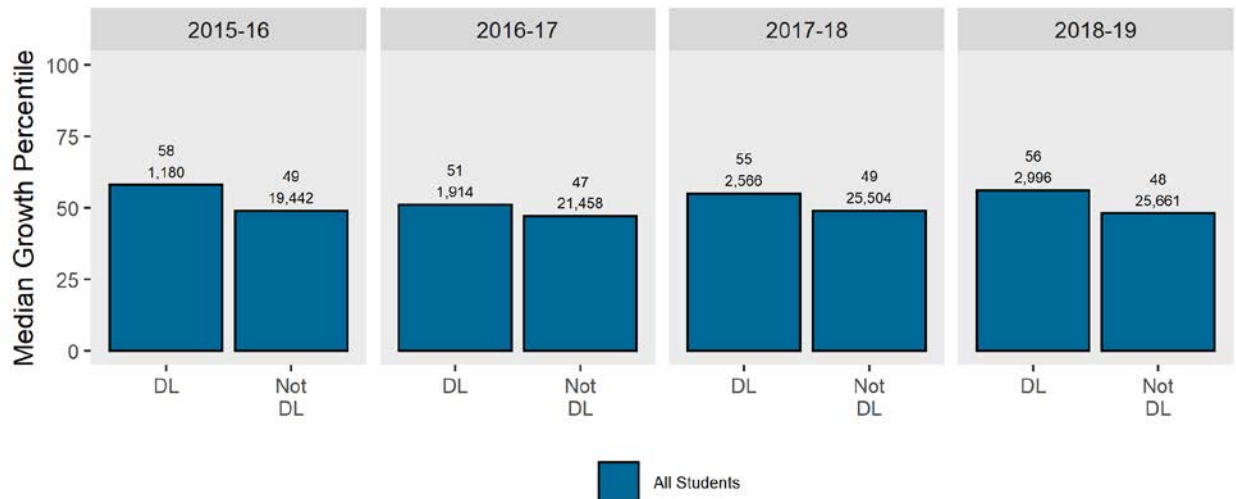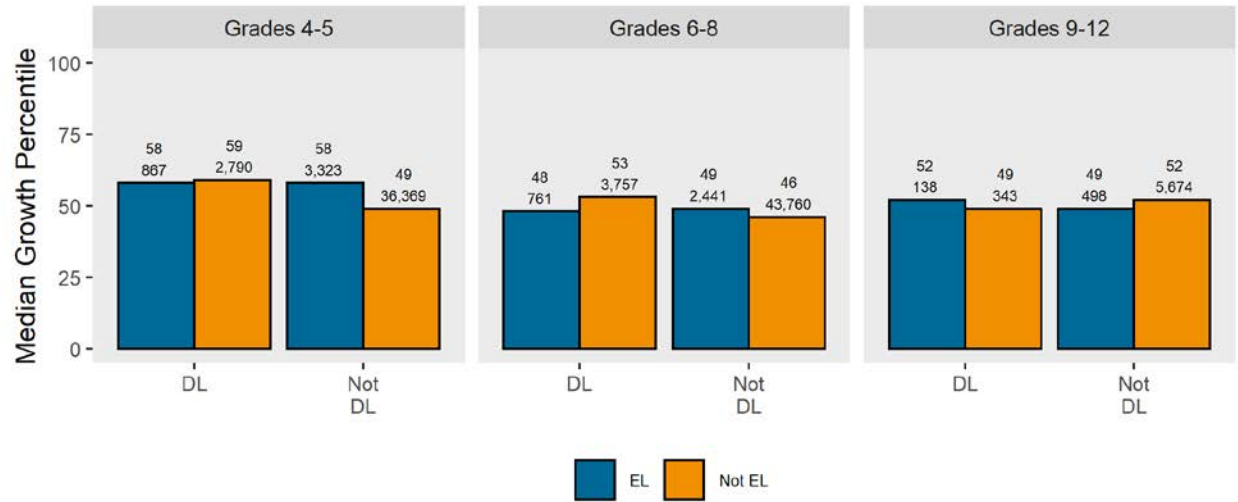

Figure F36. Academic Growth (PARCC Math MGPs) among Student with Disabilities Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year
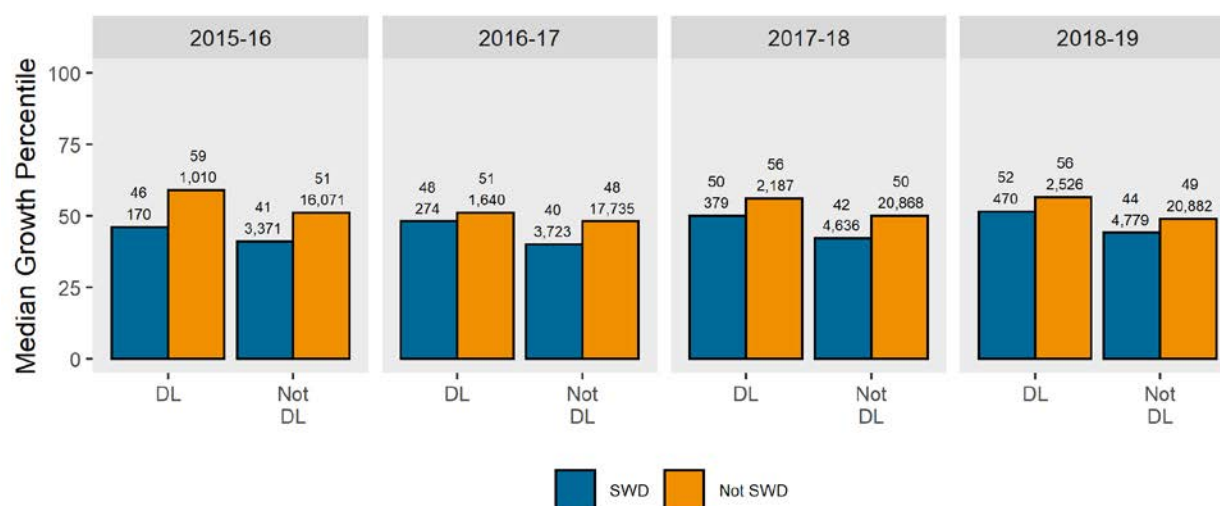
Students who are At-Risk

DL participants in grades 4 to 8 who are at-risk demonstrated higher median levels of growth in math than non-participating students who are at-risk. DL participants in grades 4 to 5 demonstrated comparable median levels of growth in math than non-participants who were not at-risk. Among students in grades 6 to 12, DL participants who are at-risk demonstrated lower median levels of growth in math than both DL participants and non-participants who were not at-risk, with DL participants in grades 9 to 12 demonstrating lower median levels of growth in math than non-participants who are at-risk.

Figure F37. Academic Growth (PARCC Math MGPs) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by Grade Band

Figure F38. Academic Growth (PARCC Math MGPs) among Students who are At-Risk Ever Participating in DL Programs versus Not Participating in DL Programs, by School Year

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Student Race/Ethnicity
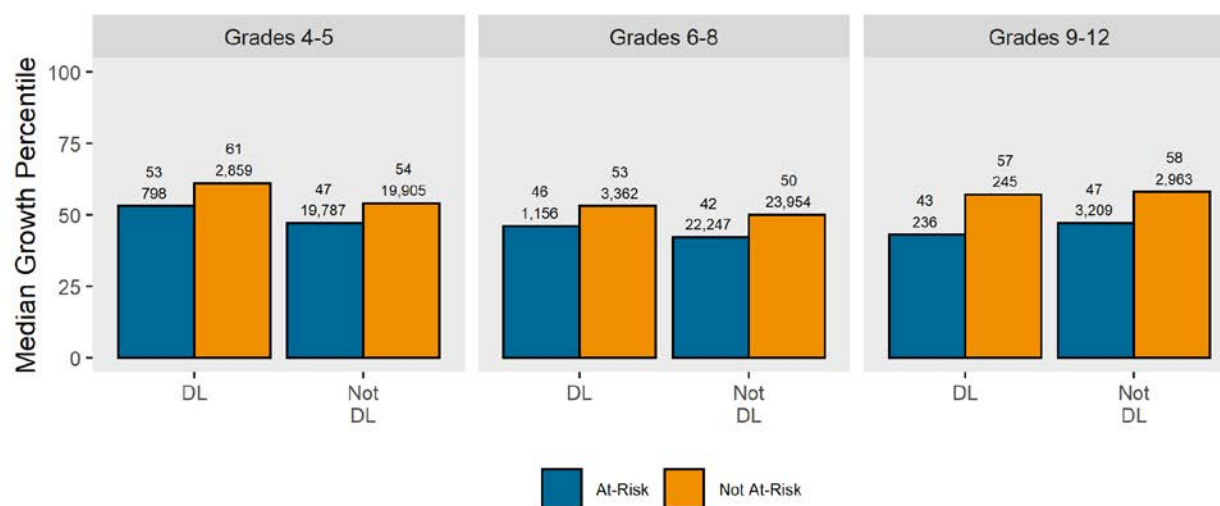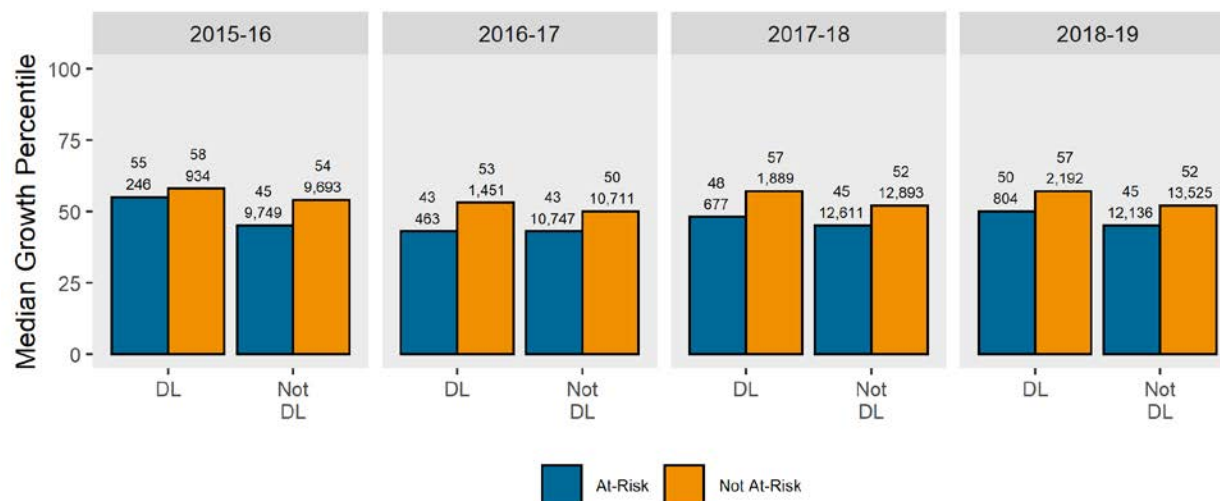
Figure F39. Academic Growth (PARCC Math MGPs) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and Grade Band

Figure F40. Academic Growth (PARCC Math MGPs) among Students Ever Participating in DL Programs versus Not Participating in DL Programs, by Race/Ethnicity and School Year

Student Growth in English Language Proficiency

All English learners must take the ACCESS assessment on an annual basis to measure progress in developing English language proficiency. Note that all ACCESS 2.0 for ELLs test-takers are English Learners. Therefore, results for "All Students" taking the ACCESS assessment apply only to English learners and results presented for student groups are similarly limited to English learners (i.e., the "Students who are At-Risk" student group is "English Learners who are At-Risk").

All Students

Figure F41. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students Ever Participating in DL programs versus Not Participating in DL programs, by Grade Band

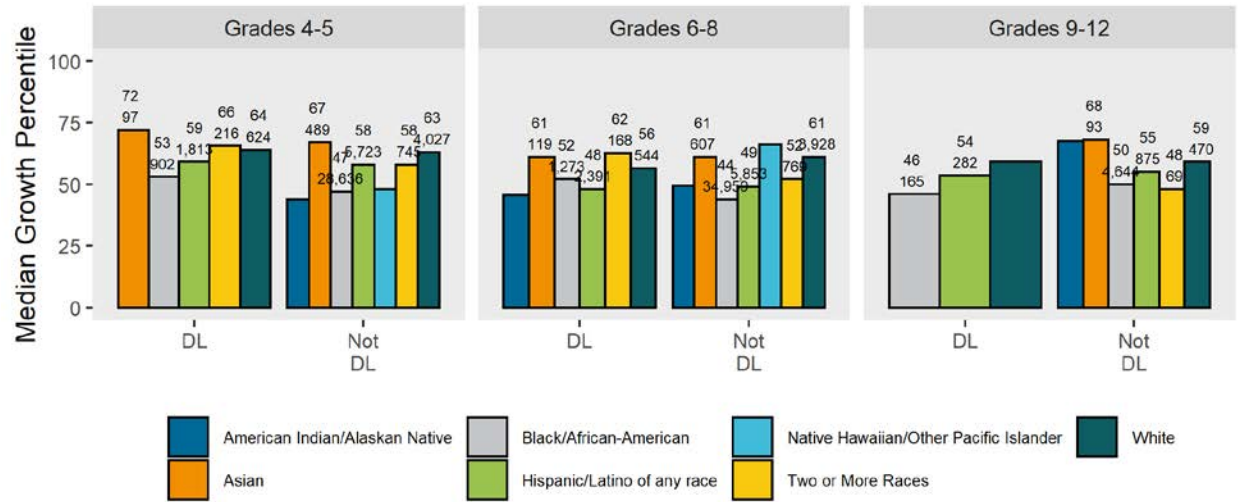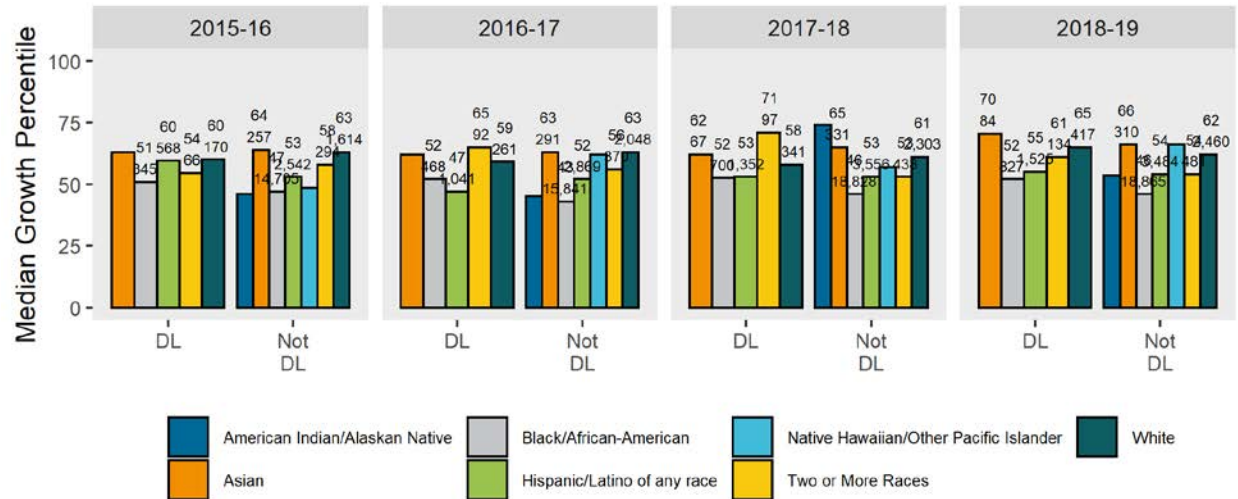Figure F42. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students Ever Participating in DL programs versus Not Participating in DL programs, by School Year
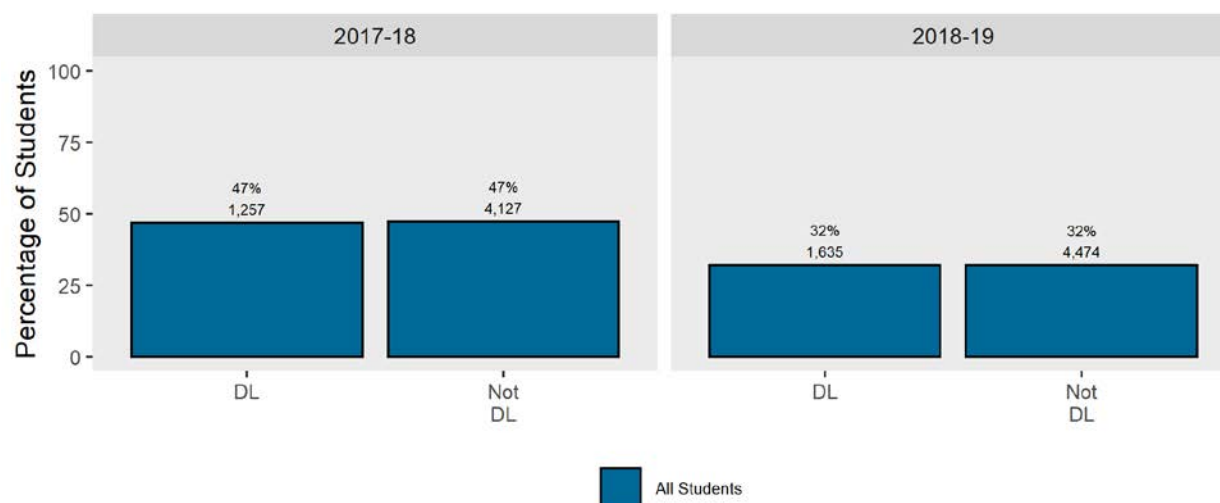
Students with Disabilities

A lower percentage of students with disabilities met ACCESS growth targets across all grade bands compared to students without disabilities. A lower percentage of students with disabilities in grades 1 to 8 participating in DL programs met ACCESS growth targets compared to non-participating students with disabilities whereas a higher percentage of participating students with disabilities in grades 9 to 12 met ACCESS growth targets compared to non-participating students with disabilities. However, the gap in the percentage of students with disabilities who met ACCESS growth targets compared to students without disabilities was greatest among students in grades 9 to 12.

Figure F43. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students with Disabilities Ever Participating in DL programs versus Not Participating in DL programs, by Grade Band

Figure F44. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students with Disabilities Ever Participating in DL programs versus Not Participating in DL programs, by School Year

Students who are At-Risk

With respect to meeting English language proficiency growth targets, a lower percentage of students who are at-risk met their growth targets compared to students who were not at-risk. Among students in grades 1 to 5 and 9 to 12, there was a larger gap between students who are at-risk compared to students who are not at-risk among non-participants; however, a lower percentage of students in grades 1 to 5 participating in DL programs met growth targets compared to non-participants. In contrast, a higher percentage of students in grades 9 to 12 participating in DL programming met growth targets than students who did not participate. Students in grades 6 to 8 who are at-risk were less likely to meet growth targets than students who were not at-risk, regardless of participation in DL programming.

Figure F45. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students who are At-Risk Ever Participating in DL programs versus Not Participating in DL programs, by Grade Band

Figure F46. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students who are At-Risk Ever Participating in DL programs versus Not Participating in DL programs, by School Year
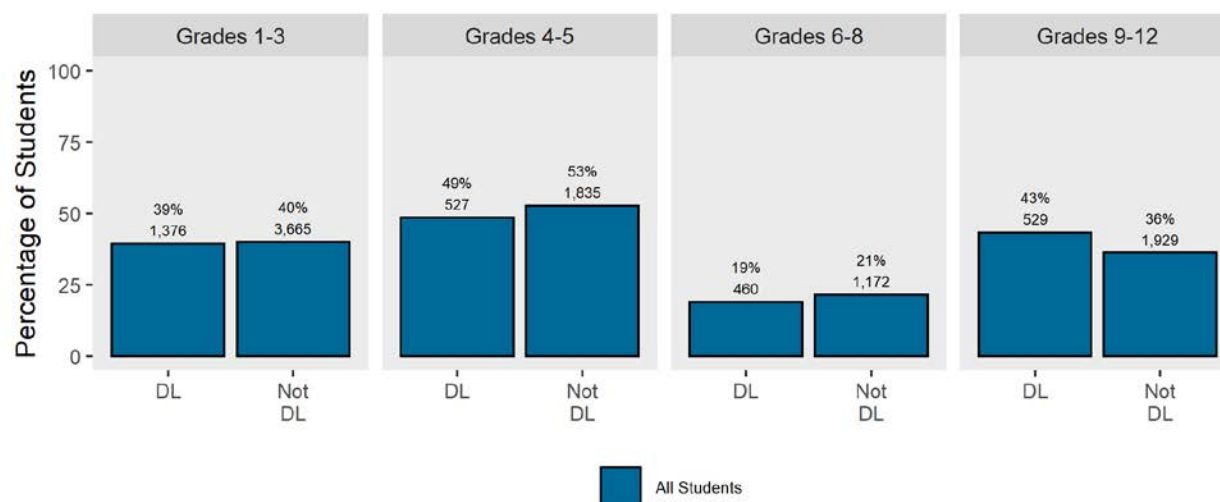
Students Race/Ethnicity

Figure F47. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students Ever Participating in DL programs versus Not Participating in DL programs, by Race/Ethnicity and Grade Band
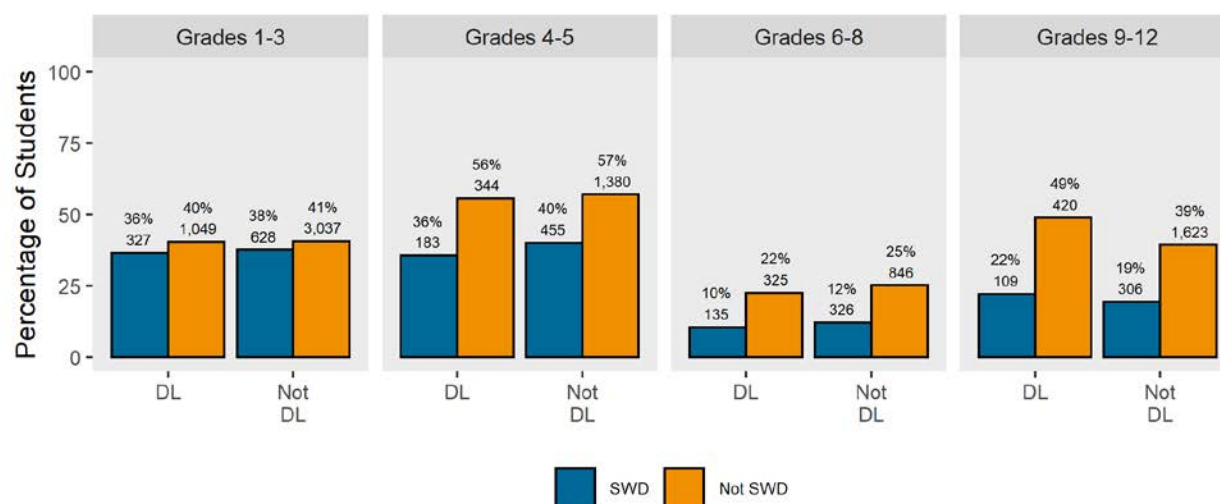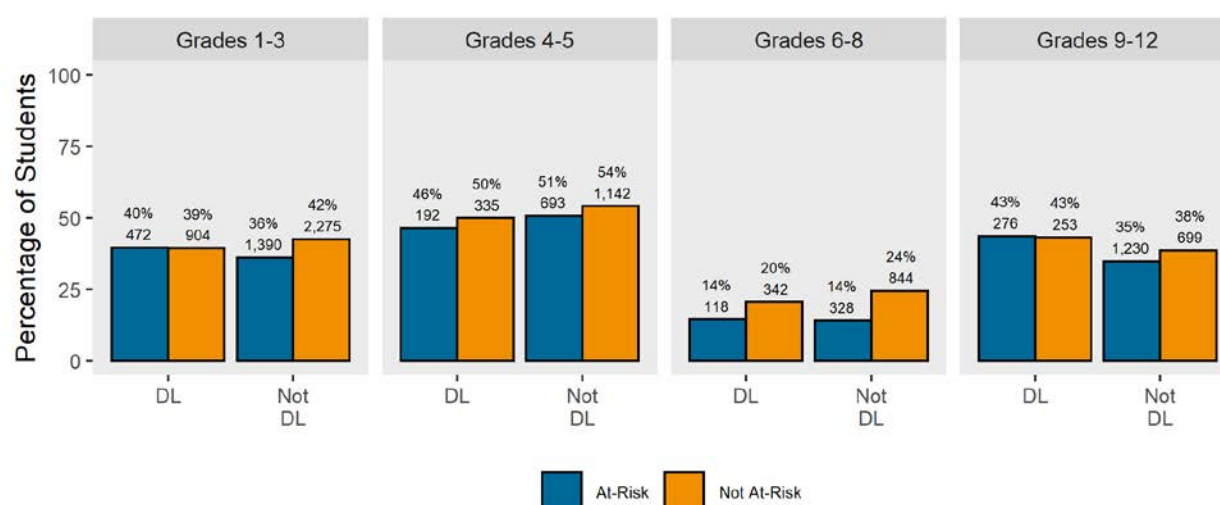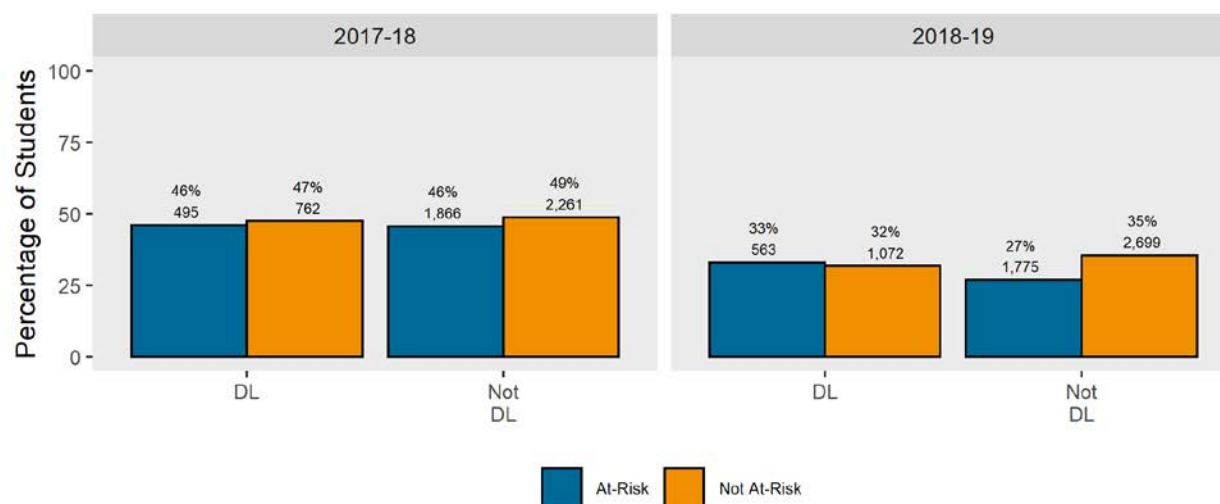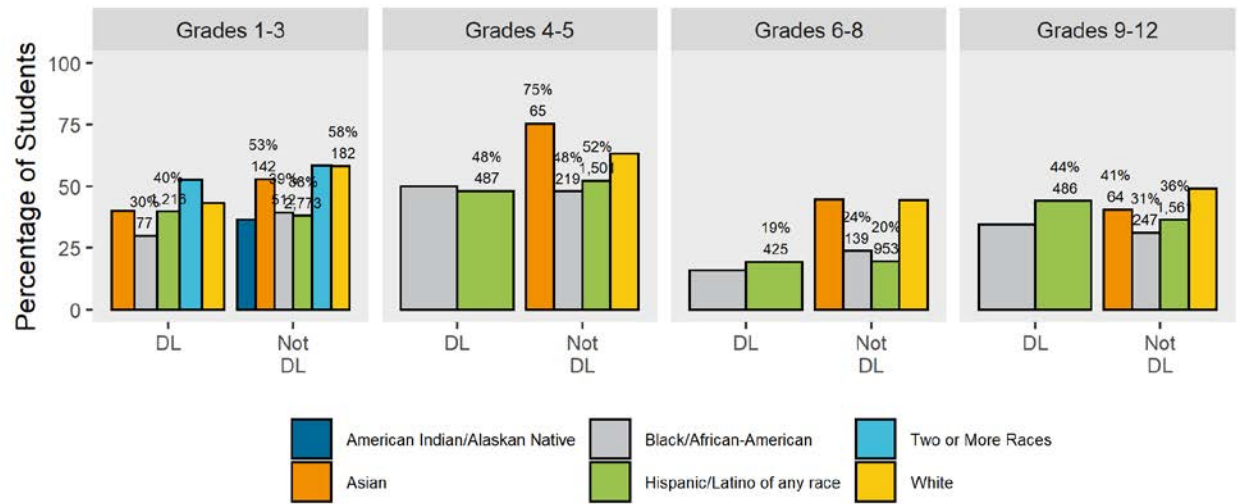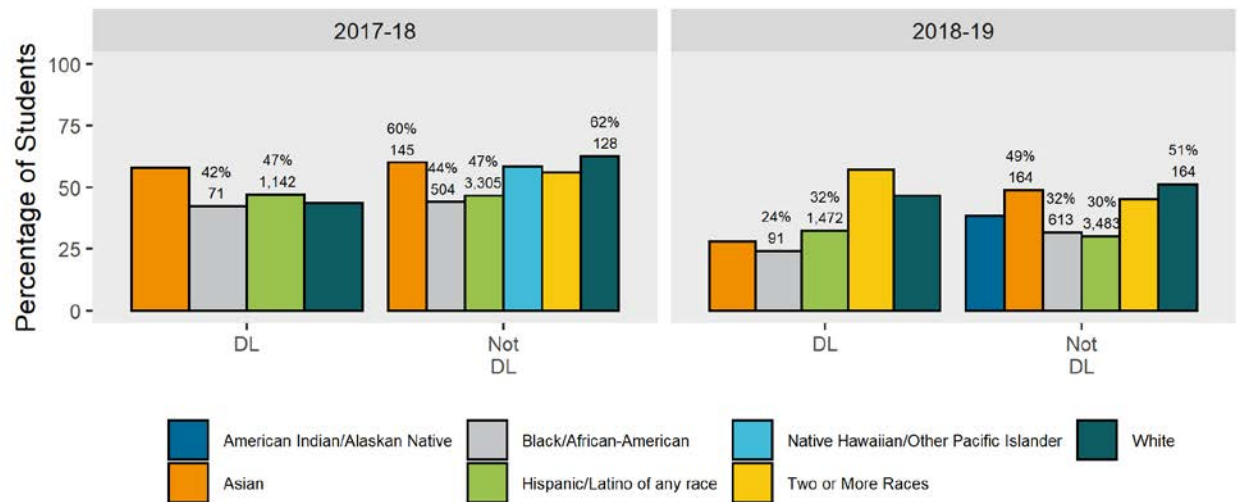

Figure F48. Growth in English Language Proficiency (ACCESS Growth Target Met) among Students Ever Participating in DL programs versus Not Participating in DL programs, by Race/Ethnicity and School Year

Appendix G: Demand and Equitable Access to DL Programs

Background of the Lottery Process

Generally, students first access DL programs through the common lottery process[44], with higher numbers of seats typically available in the first grade offered by a given school, termed "grade of entry". All pre-K students in the District access DL programs through the common lottery, whereas students in grades K to 12 may access DL programs through the common lottery, or – for DCPS students --- through in-boundary or feeder rights to a school. For DL programs, new seats are most often available in grades pre-K 3, pre-K 4, and kindergarten for elementary schools, grade 6 for middle schools and grade 9 for high schools.

Examination of each step of the lottery process can help to inform at what point observed inequities in DL program enrollment may occur among students who do not have in-boundary or feeder rights to DL programming. The "Lottery Demand" analysis compares the proportions of different student groups who participate in the lottery processes and subsequently "demand", "match to", and "enroll in" DL programs to examine whether students who seek DL programs are equally likely to engage at each step of the lottery process compared to students who do not seek DL program enrollment.

To understand demand for DL programs, student preference for DL programs among students participating in the lottery was investigated.[45] Through the lottery process, students in DC can apply to up to 12 schools. Applicants rank each of these schools in order of preference. "Demand" was defined as student selecting a DL program as their highest ranked (i.e., top choice) school.

Students are then matched to schools based on the following: 1) number of available spaces at each school; 2) sibling, proximity, and other lottery preferences; 3) how each student ranked their school choices; and 4) each student's random lottery number. If a seat is not available at the student's first choice, the student is added to the waitlist for that school. Students continue to be added to the waitlist in ranked order for each school applied to until a seat is available. [46] Once a seat is available at a ranked school, the student will be matched to that school. "Match to" was defined as a student being matched to a seat in a DL program; a "high demand match" was defined as a match to their top-choice school whereas a "low demand match" was defined as a match to a lower ranked school.

If students are matched to one of their lottery choices, students can then choose to enroll in their matched school or not to enroll. "Enroll in" was defined as a student enrolling in a DL program they applied to via

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[44] Historically, not all dual language programs have participated in the common lottery process. Elsie Whitlow Stokes PCS started participating in the lottery in 2018 for enrollment in the 2018-19 school year, Mary McLeod Bethune PCS started participating in the lottery in 2019 for enrollment in the 2019-20 school year, and Latin American Montessori Bilingual (LAMB) PCS started participating in the lottery in 2020 for enrollment in the 2020-21 school year. Change in the number of DL programs participating in the DC lottery process has changed over time limits the ability to interpret year over year comparisons in observed patterns.

[45] Analysis relies on lottery data from My School DC from the 2015-16 through 2019-29 school years.

[46] Waitlisted students can be assigned different levels of preference at a given school according to school policy. All schools with a lower rank than the matched school are not processed, meaning that the student is not added to the waitlist at any school ranked lower than the school they are matched to. For additional detail on the lottery process, please see the My School DC website.

the lottery; a "high demand enrollment" was defined as enrolling in their top-choice school whereas a "low demand enrollment" was defined as enrolling in a lower ranked school.

Lottery Participation

Because a larger proportion of lottery participants engage in the lottery process in a given school's "grade of entry," demographic information is missing for a large proportion of lottery applicants. To establish student characteristics for lottery applicants compared to non-lottery applicants we employed two different methodologies. First, we pooled all student data across the 2015-16 and 2019-20 school years and compared students who had "ever" participated in the lottery with those students who had "never" participated in the lottery. This method is termed the "pooled methodology". Second, we used the student characteristics established in the year following lottery application to impute what their characteristics would have been during the year of lottery application and compared demographics of those lottery applicants to all students enrolled in the year previous to enrollment following lottery acceptance. This method is termed the "prior year imputation methodology". In both instances, analysis is limited by the fact that it excludes all students who participate in the lottery but never enroll in a DC public or public charter school as student characteristics are not available for these students. Results for both the "pooled methodology" and the "prior year imputation methodology" follow.

English Learners

Lottery participants are slightly less likely to be English learners compared to students who are not lottery participants. As such, the higher proportion of English learners enrolling in dual language programs compared to non-dual language programs also cannot be explained by participation in the lottery; a lower percentage of English learners participate in the lottery overall, but a higher percentage of English learners enroll in dual language programs compared to non-dual language programs despite this lower level of participation.

Figure G1. Lottery Participation Among English Learners (Pooled Methodology)
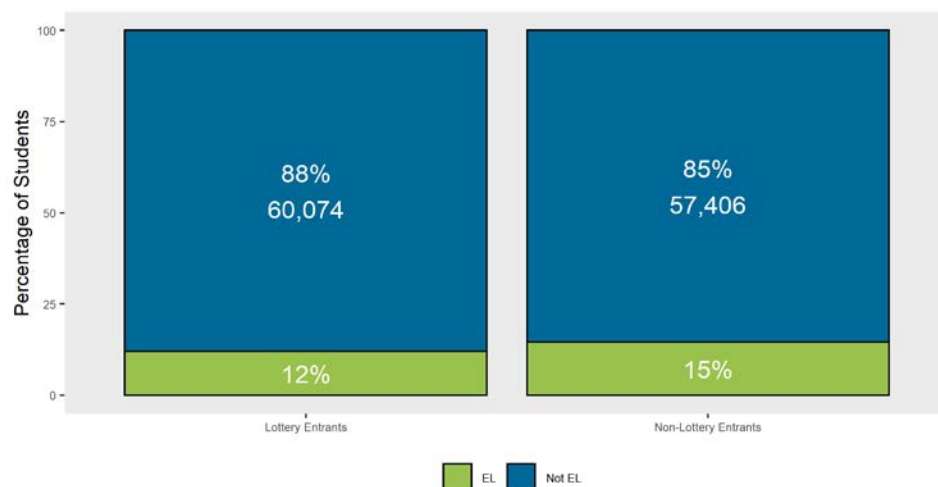
Similar to results found for the "pooled" methodology, lottery participants between the 2015-16 and 2018-19 school years were slightly less likely to be English learners compared to students who are not lottery participants.

Figure G2. Lottery Participation among English Learners (Prior Year Imputation Methodology)

Students with Disabilities

Figure G3. Lottery Participation Among Students with Disabilities (Pooled Methodology)

Lottery participants are less likely to be students with disabilities compared to students who are not lottery participants. Observed disproportionality in lottery participation is similar to that seen between students enrolled in dual language programs compared to students enrolled in non-dual language programs, suggesting that lottery participation may account for some of the observed inequities in enrollment in dual language programs among students with disabilities.

Figure G4. Lottery Participation among Students with Disabilities (Prior Year Imputation Methodology)
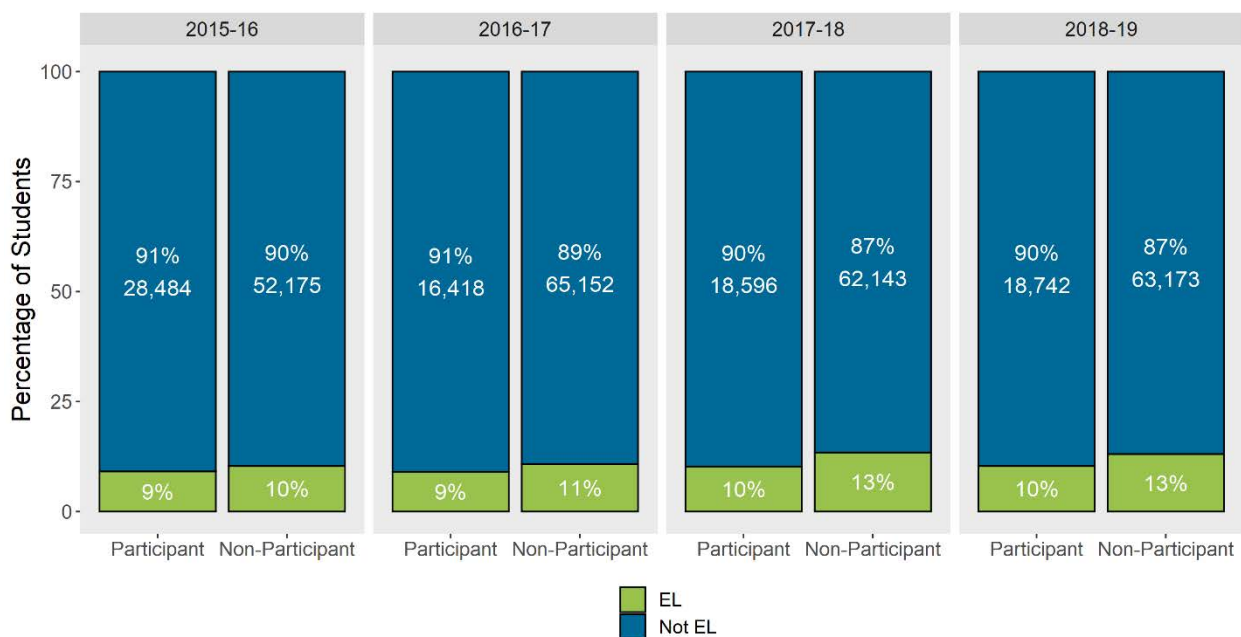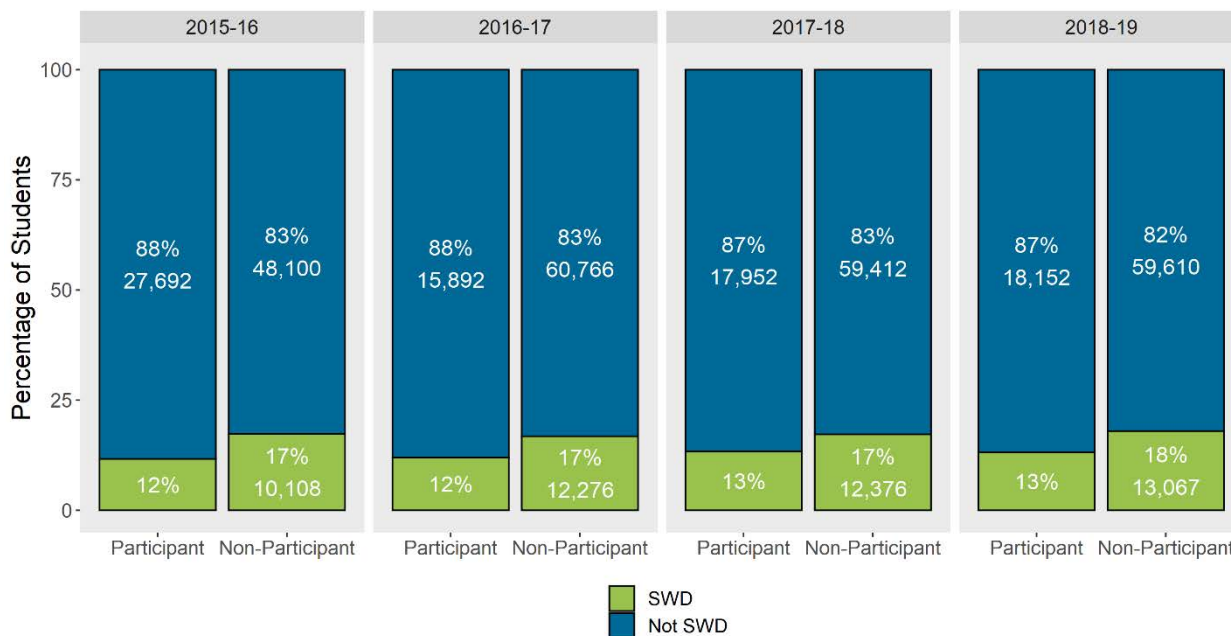

Students who are At-Risk

Lottery participants are slightly less likely to be students who are at-risk compared to students who are not lottery participants. Although a lower proportion of students who access the lottery are students who

are at-risk compared to students who do not access the lottery, the difference in the proportion of students accessing dual language programs who are at-risk compared to students not accessing dual language programs who are at-risk is much greater. Therefore, observed inequities in dual language enrollment among students who are at-risk cannot be explained by participation in the lottery alone.

Figure G5. Lottery Participation Among Students who are At-Risk (Pooled Methodology)
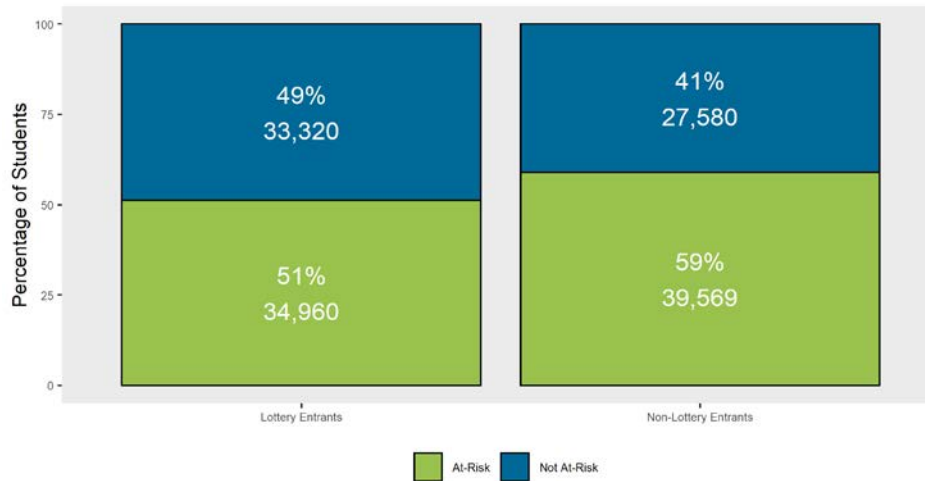
Similar to results found for the "pooled" methodology, a lower proportion of lottery participants between the 2015-16 and 2018-19 school years were students who are at-risk compared to students who were not lottery participants in the same school years.

Figure G6. Lottery Participation among Students who are At-Risk (Prior Year Imputation Methodology)
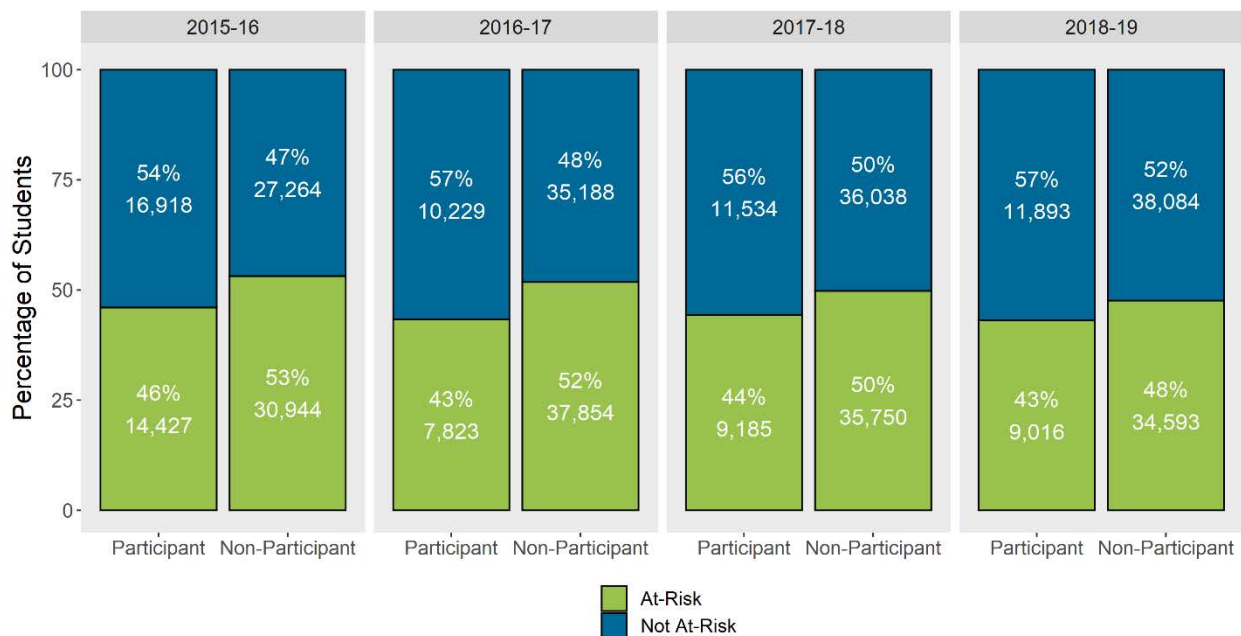
Student Gender

Lottery participants are equally likely to be male and female compared to non-lottery participants.

Figure G7. Lottery Participation, by Gender (Pooled Methodology)
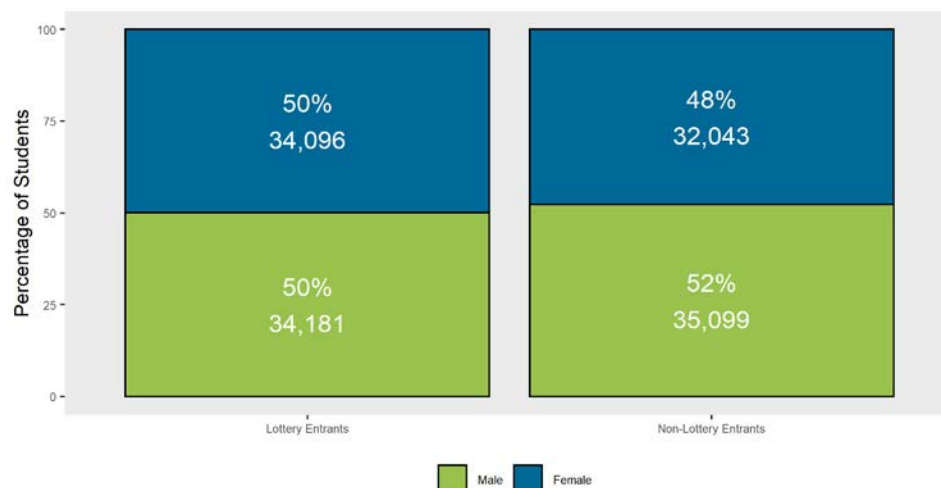
Figure G8. Lottery Participation, by Gender (Prior Year Imputation Methodology)
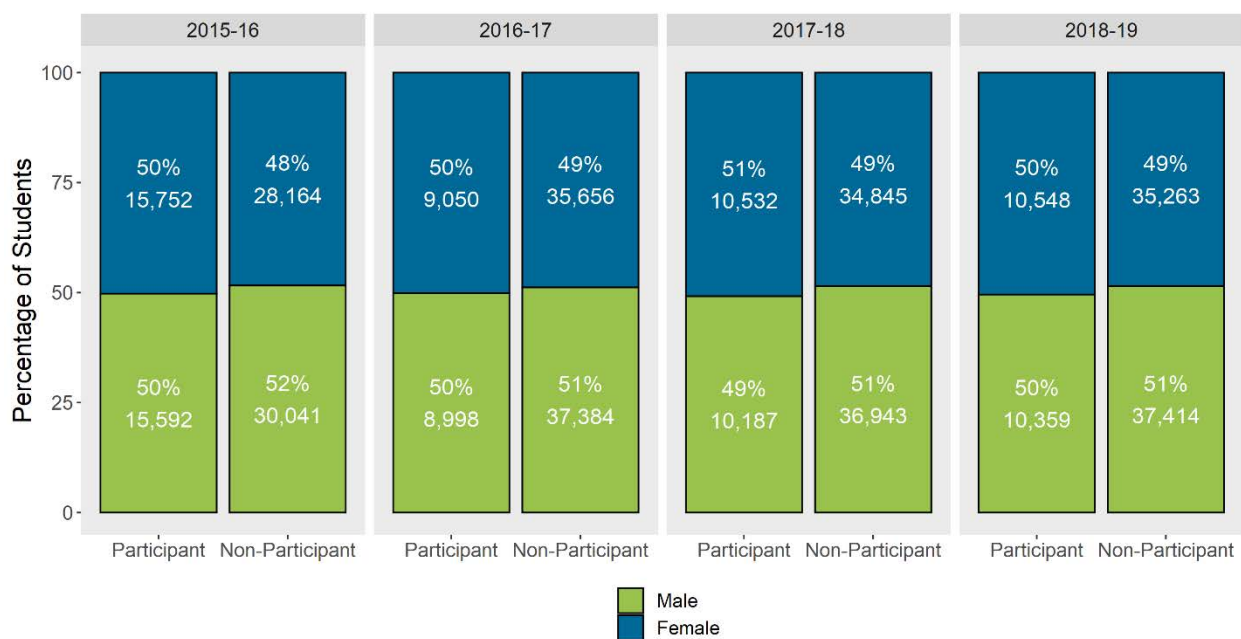
Student Race/Ethnicity

Lottery participants are significantly less likely to be Hispanic/Latino of any race but significantly more likely to be White compared to non-lottery participants. Taken together with observed inequities in enrollment patterns in dual language programs, the over-representation of White students among lottery participants may account for some of the over-representation of White students observed in dual language programs. Despite the relative under-representation of Latino/Hispanic students of any race

among lottery participants, higher proportions of Latino/Hispanic students of any race enroll in dual language programs than enroll in non-dual language programs.

Figure G9. Lottery Participation, by Race/Ethnicity (Pooled Methodology)

Figure G10. Lottery Participation, by Race/Ethnicity (Prior Year Imputation Methodology)
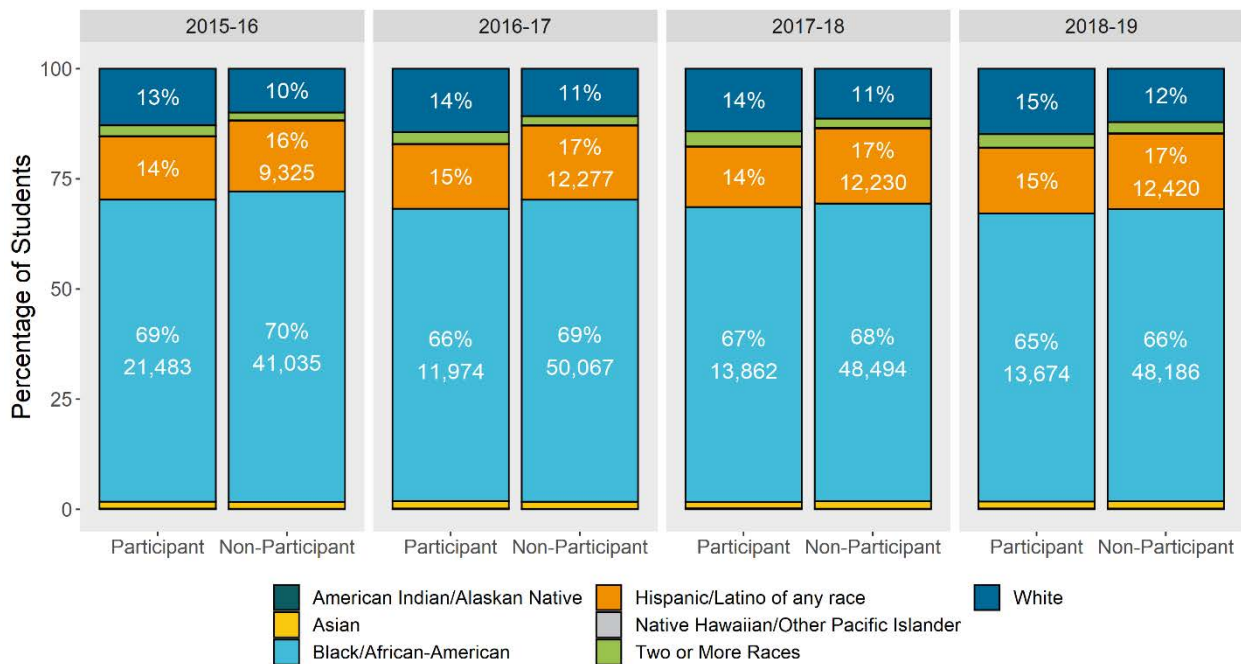
Student Native Language

Lottery participants are equally likely to identify Spanish or Amharic as their native language compared to non-lottery participants. Native Chinese-speaking students are slightly more likely to participate in the lottery, while native Arabic- and Vietnamese-speaking students are slightly less likely to participate in the lottery. However, given the relatively small numbers of students whose native languages are Arabic, Chinese, and Vietnamese these numbers are difficult to interpret.

Figure G11. Lottery Participation, by Native Language (Pooled Methodology)

Figure G12. Lottery Participation, by Native Language (Prior Year Imputation Methodology)
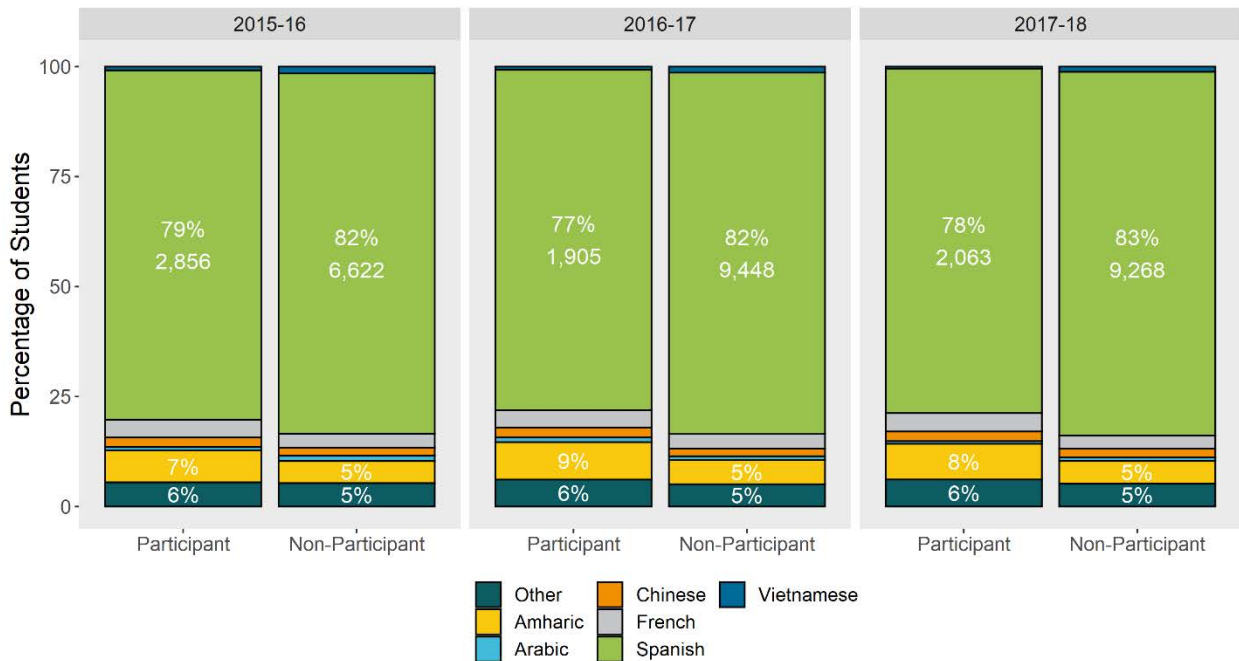
Student Ward of Residence

Lottery participants are more likely to live in Ward 6 and are slightly more likely to live in Ward 5 compared to non-lottery participants. Lottery participants are less likely to live in Ward 1, Ward 3, and Ward 4. Given the under-representation of students living in Wards 6, 7, and 8 in dual language programs, the relative participation in the lottery by ward of residence does not seem to explain observed disproportionalities observed with respect to enrollment in dual language programs.

Figure G13. Lottery Participation, by Ward of Residence (Pooled Methodology)
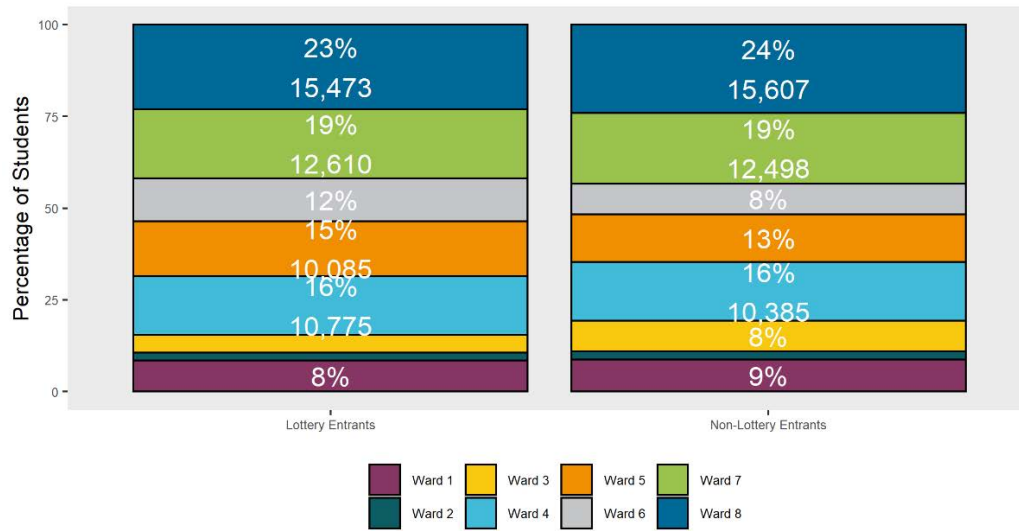
Figure G14. Lottery Participation, by Ward of Residence (Prior Year Imputation Methodology)
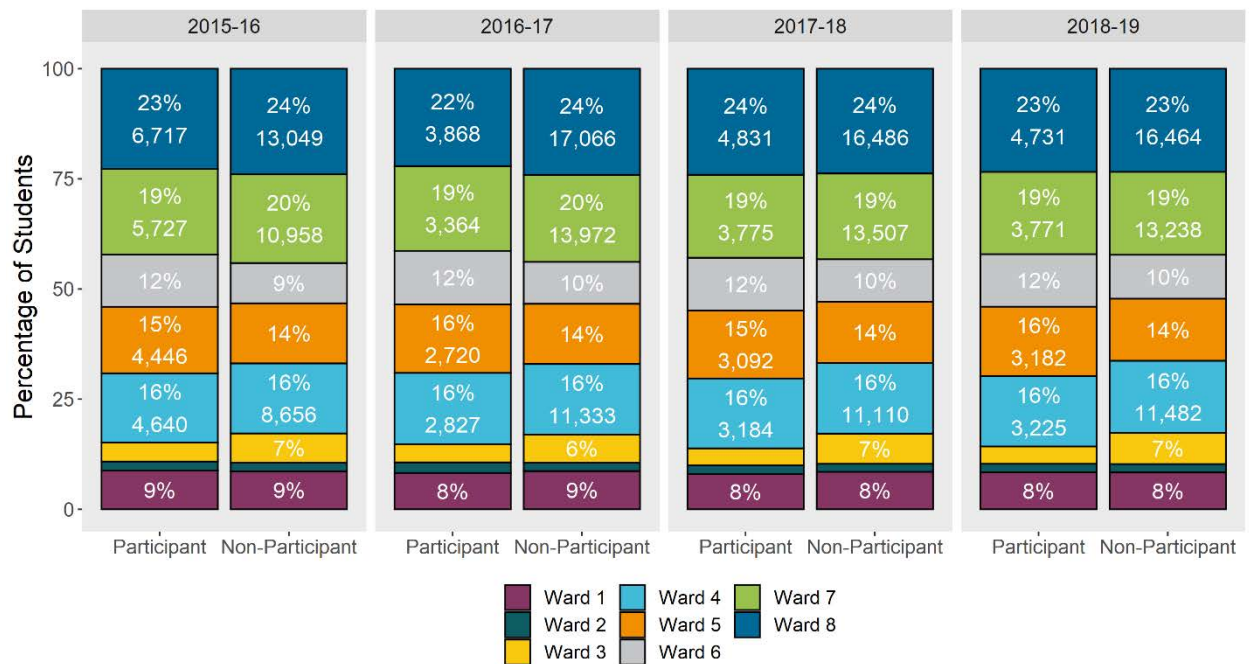
Demand for DL Programs

Factors Associated with Demand for DL Programs: Logistic Regression Analysis

Table G1. Factors Associated with Pre-K to 12 Demand for DL Programs

Demand DL (DL Top Choice)	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.053	.036	1.51	.131	.985	1.126	
2017-18	1.099	.037	2.80	.005	1.029	1.174	**
2018-19	1.231	.040	6.42	.000	1.155	1.312	***
2019-20	1.351	.043	9.46	.000	1.269	1.438	***
Grade 6 to 12	.628	.015	-19.55	.000	.599	.658	***
EL Status	**1.514**	.046	13.75	.000	1.427	1.607	***
SWD Status	**.833**	.028	-5.43	.000	.780	.890	***
At-Risk Status	**.5**	.012	-28.54	.000	.477	.524	***
Black/African-American	**.387**	.011	-34.50	.000	.367	.409	***
Latinx/Hispanic of any race	**2.374**	.074	27.82	.000	2.234	2.524	***
Two or more races	**1.66**	.076	11.11	.000	1.518	1.815	***
Not Black, Latinx, or Two or more races	1.149	.185	0.87	.386	.839	1.575	
Male	**.945**	.019	-2.81	.005	.909	.983	**
Constant	.282	.009	-39.55	.000	.265	.301	***

Pseudo r-squared		0.138	Number of obs		93085.000	
Chi-square		10717.468	Prob > chi2		0.000	

*** p<.001, ** p<.01, * p<.05

Student Group Lottery Demand Trends and Equity

English Learners

Figure G15. Top Choice Demand for DL Program among English Learners
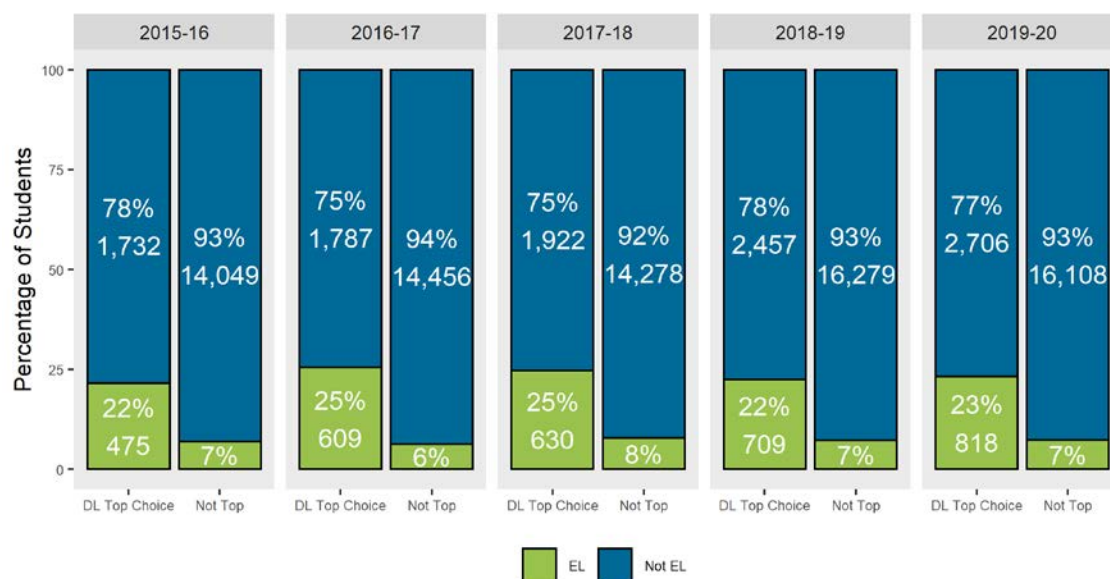
Students with Disabilities

Figure G16. Top Choice Demand for DL Program among Students with Disabilities
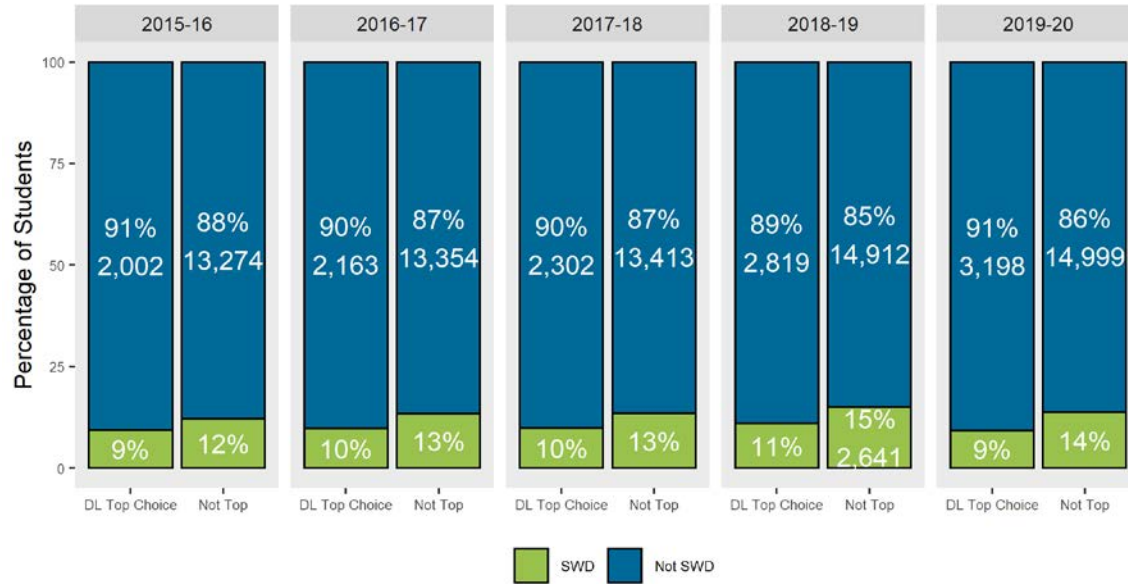
Students who are At-Risk

Figure G17. Top Choice Demand for DL Program among Students who are At-Risk
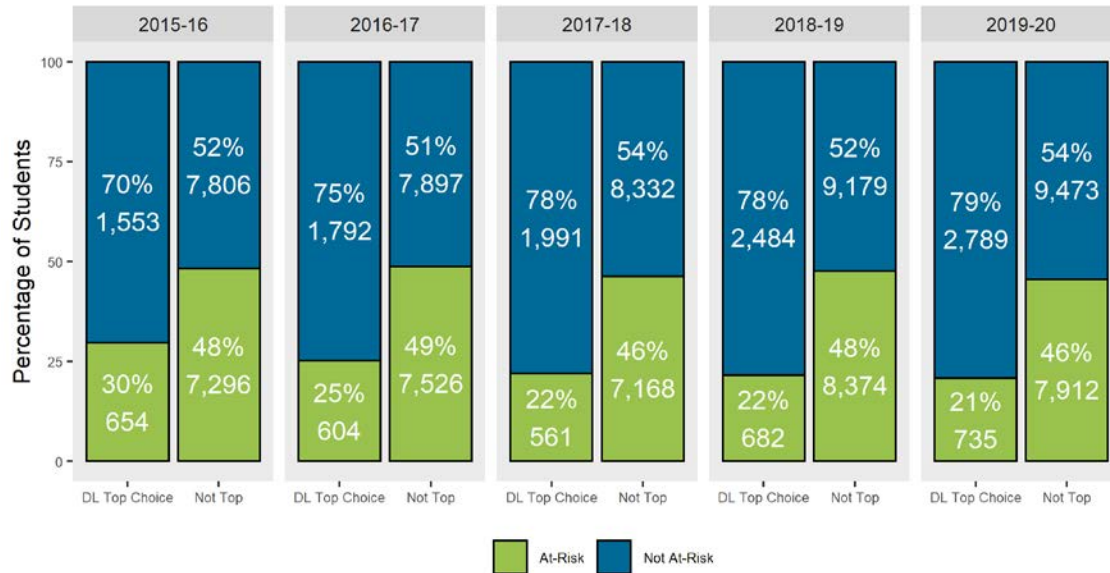
English Learners with Disabilities

Figure G18. Top Choice Demand for DL Program among English Learners with Disabilities
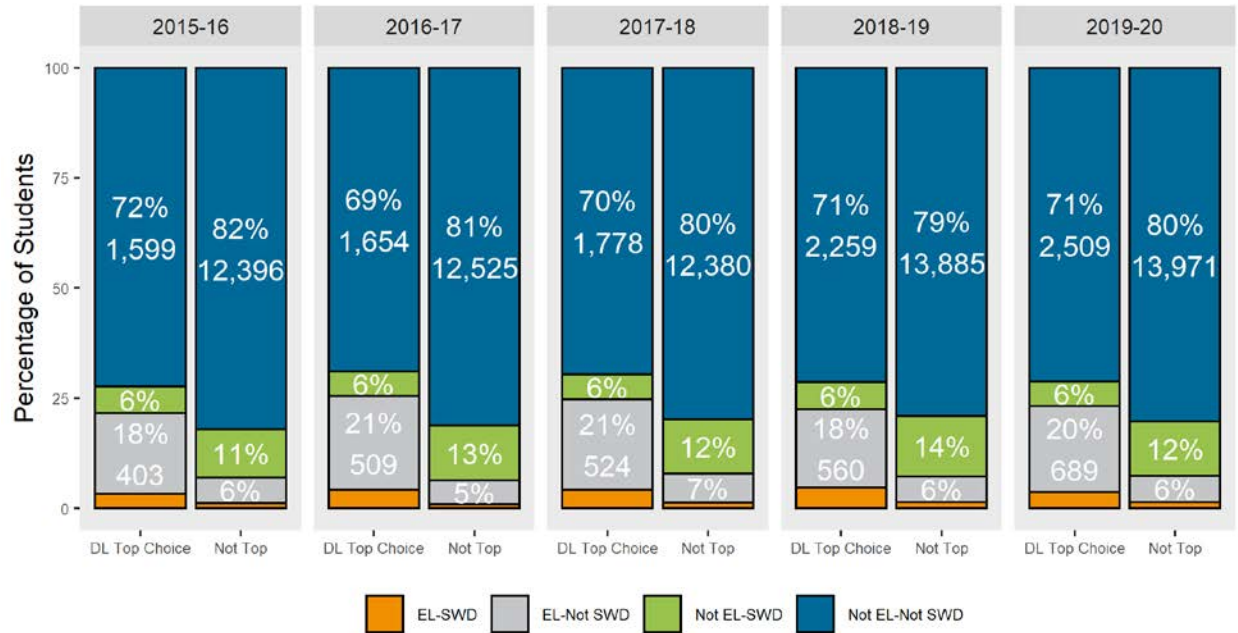
English Learners who are At-Risk

Figure G19. Top Choice Demand for DL Program among English Learners who are At-Risk
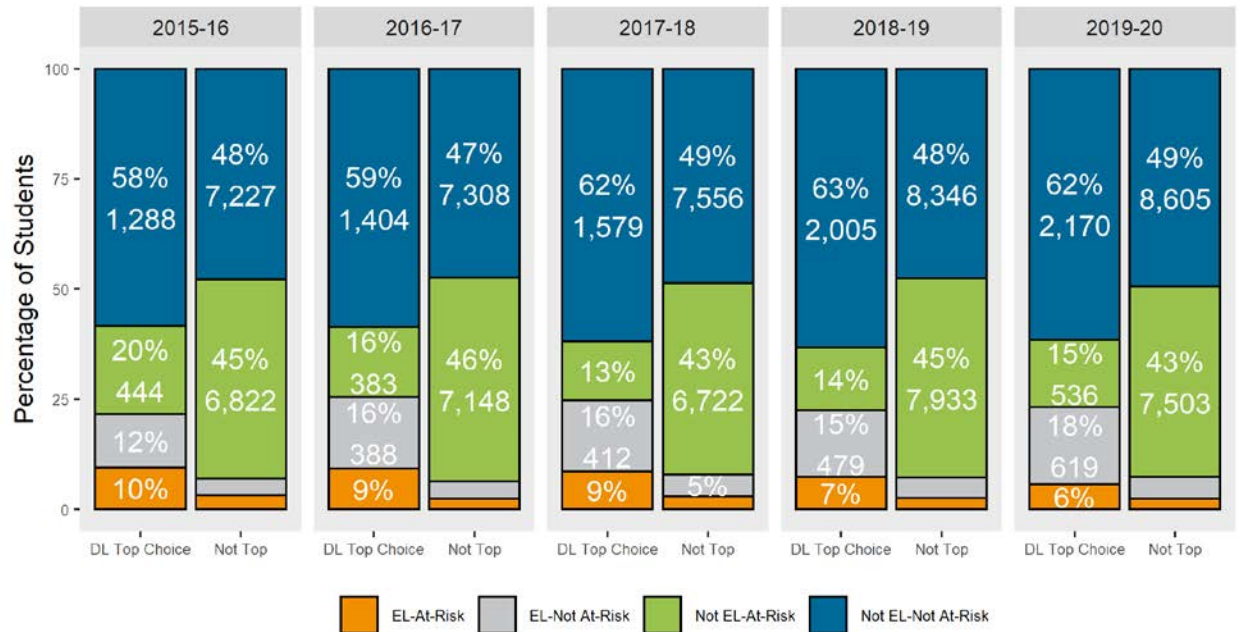
Students with Disabilities who are At-Risk

Figure G20. Top Choice Demand for DL Program among Students with Disabilities who are At-Risk
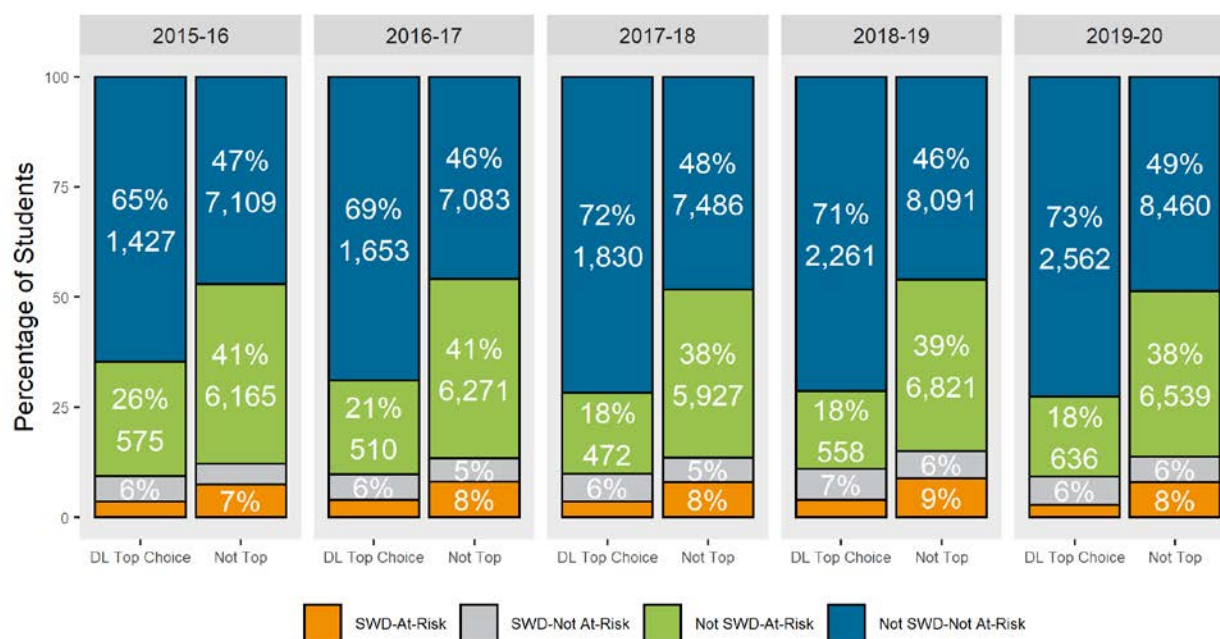
Student Race/Ethnicity

Although a lower proportion of students engaging in the lottery process were Hispanic/Latino students of another race compared to students not engaging in the lottery process, a significantly higher proportion of students indicating demand for DL programs were Hispanic/Latino students of any race. In the 2017-18 through 2019-20 school years, a similar trend was seen among White students, with a significantly higher proportion of students demanding DL programs identifying as White. Of note, an approximately equal share of White students indicated demand for DL and non-DL programs in the 2015-16 and 2016-17 school years. A similar trend is observed among students with two or more races, with the highest proportion of students demanding a dual language program identifying as having two or more races in the 2018-19 school year. Although a relatively static proportion of Black/African-American students participate in the lottery compared with those who do not participate, among students who indicate demand for DL programs, a significantly lower proportion of students indicating demand for DL programs identify as Black/African-American compared to students who did not indicate demand.

Figure G21. Top Choice Demand for DL Program, by Student Race/Ethnicity
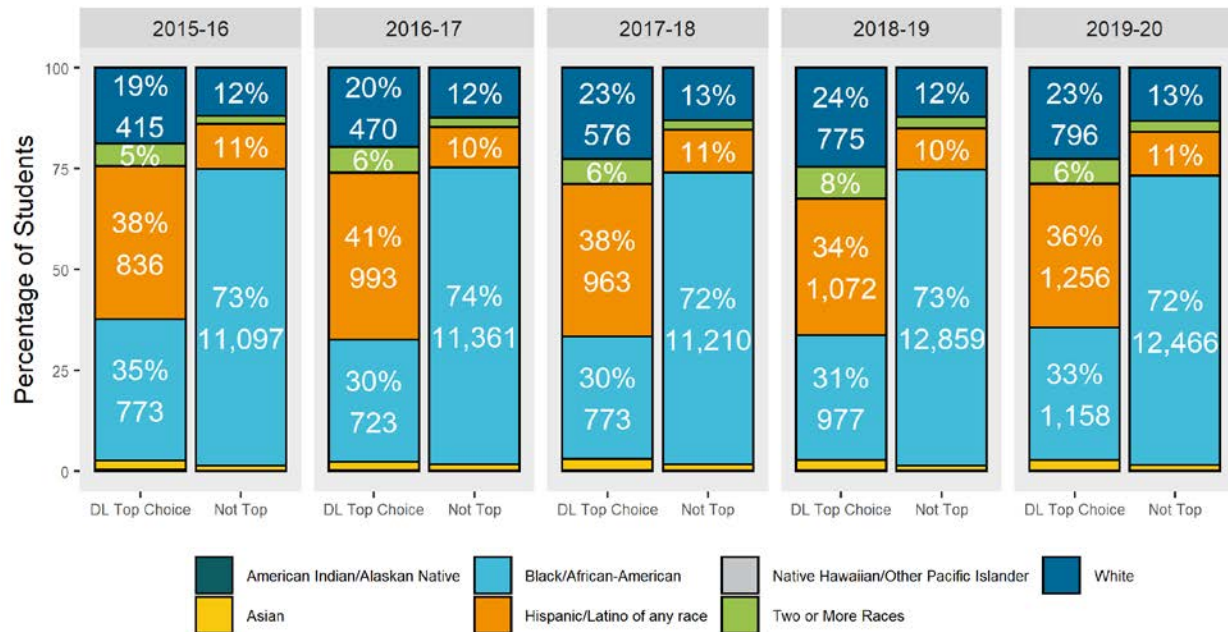
Student Gender and Race/Ethnicity

Demand patterns among students by racial/ethnic group and gender yield similar results to those of race/ethnicity alone with equal proportions of males and females in each racial/ethnic group demanding dual language programs.

Figure G22. Top Choice Demand for DL Program, by Student Race/Ethnicity and Gender
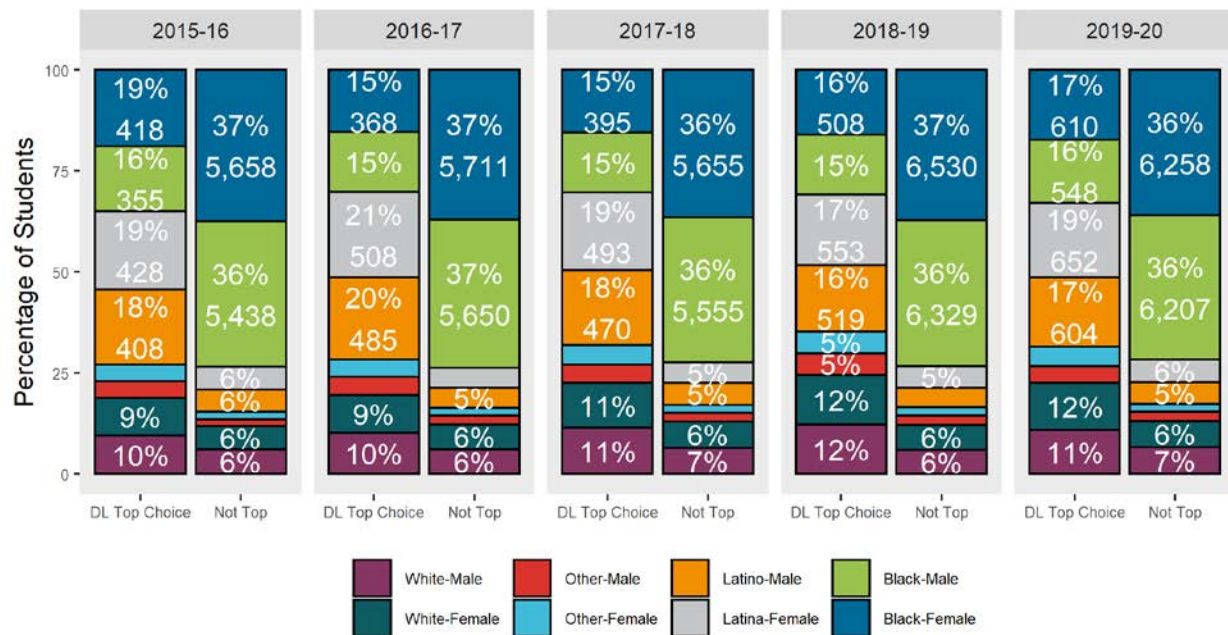
Student Gender and At-Risk Status

Demand patterns among students according to at-risk status and gender yield similar results to those of students who are at-risk alone with equal proportions of males and females in each racial/ethnic group demanding dual language programs.

Figure G23. Top Choice Demand for DL Program, by Gender and At-Risk Status
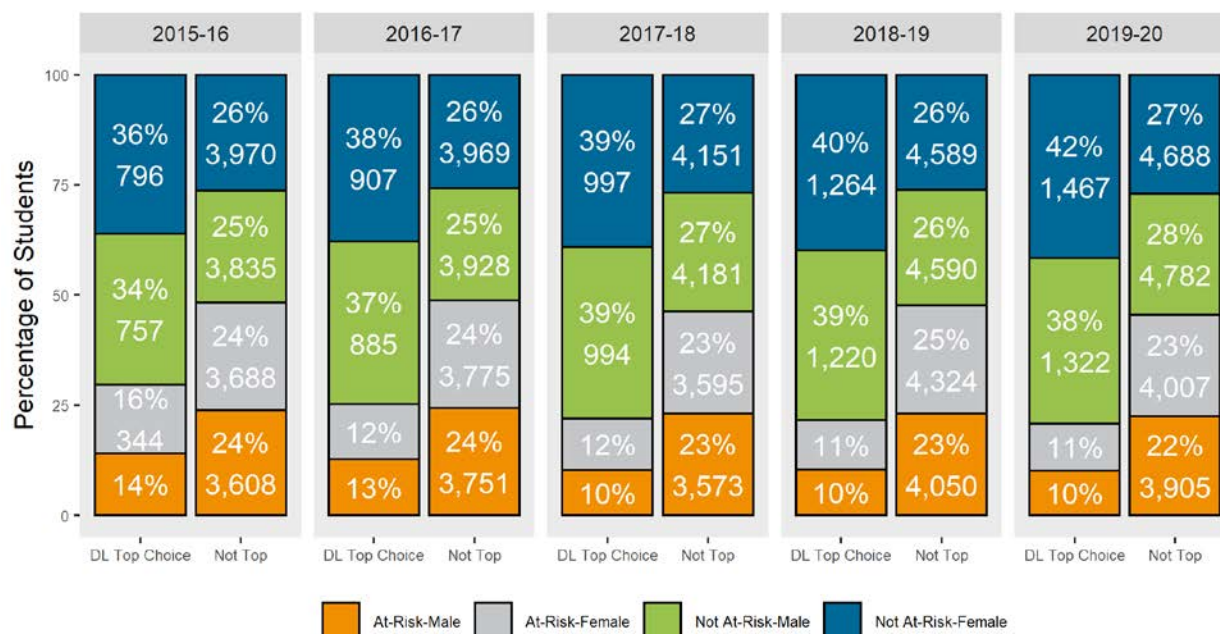
Native Language

Across all years, a significantly higher proportion of students indicating demand for DL programs identified Spanish as their native language compared to not indicating demand. These findings suggest that a significant amount of the disproportionality observed in the share of native Spanish speakers who demand dual language programming is a result of self-selection.

Figure G24. Top Choice Demand for DL Program, by Native Language
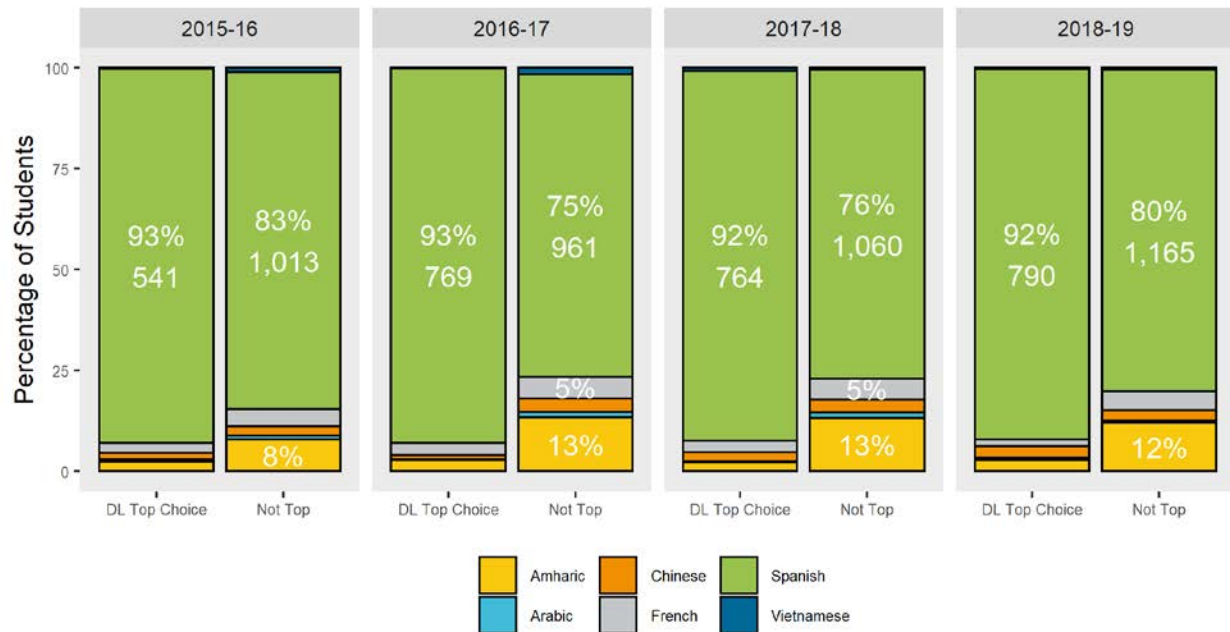
Student Ward of Residence

Students indicating demand for DL programs students are more likely to live in Ward 1, Ward 4, and Ward 5, whereas students are less likely to live in Wards 6, 7, and 8.

Figure G25. Top Choice Demand for DL Program, by Student Ward of Residence
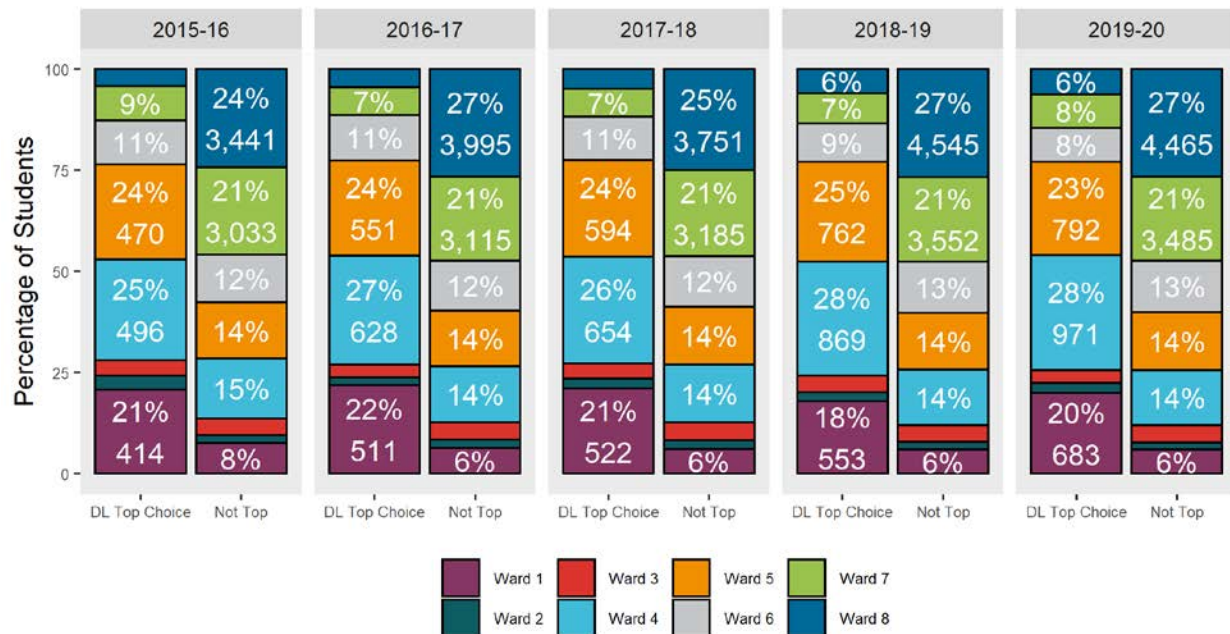
Demand, Match, and Enrollment Patterns

Defining Demand, Match, and Enrollment Patterns

Among students indicating demand[47] for a DL programs, there were six primary "match" and "enroll" trajectories that were examined:

- **High Demand Match, DL Enrollment:** Students who were matched to any DL program that was among their top-five overall ranked choices and enrolled in any DL program that was among their top-five overall ranked choices.
- **High Demand Match, No DL Enrollment:** Students who were matched to a DL program that was among their top-five overall ranked choices but did not enroll in any DL program. Students who a) were waitlisted at a non-DL school and enrolled; or b) did not enroll in any school identified as a lottery preference are both included in this pathway due to small sample sizes.
- **Low Demand Match, DL Enrollment:** Students who were matched to any DL program that was not among their top-five overall ranked choices and enrolled in any DL program that was not among their top-five overall ranked choices.
- **Low Demand Match, No DL Enrollment:** Students who were matched to any DL program that was not among their top-five overall ranked choices but did not enroll in any DL program. Students who a) were waitlisted at a non-DL school and decided to enroll in that school; or b) did not enroll in any school identified as a lottery preference are both included in this pathway due to small sample sizes.
- **No Match, DL Enrollment:** Students who were not matched to a DL program but enrolled in a DL program a) via a waitlist; b) via in-boundary or by right; or c) continued in their previous DL program after participating in the lottery are included in this pathway.
- **No Match, No DL Enrollment:** Students who were not matched to a DL program and did not enroll in a DL program. Students who a) enrolled in a non-DL school; or b) did not enroll in any school identified as a lottery preference are included in this pathway.

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[47] This analysis uses the same definition of demand as previous analysis. Students were considered to demonstrate "high demand" for DL programs if they selected a DL as their "top choice" in the lottery. Students were considered to demonstrate "low demand" for DL programs if they ranked at least one DL program in the lottery process but did not select a DL program as their "top choice".

Figure G26. Demand, Match and Enrollment Pathways among All Students
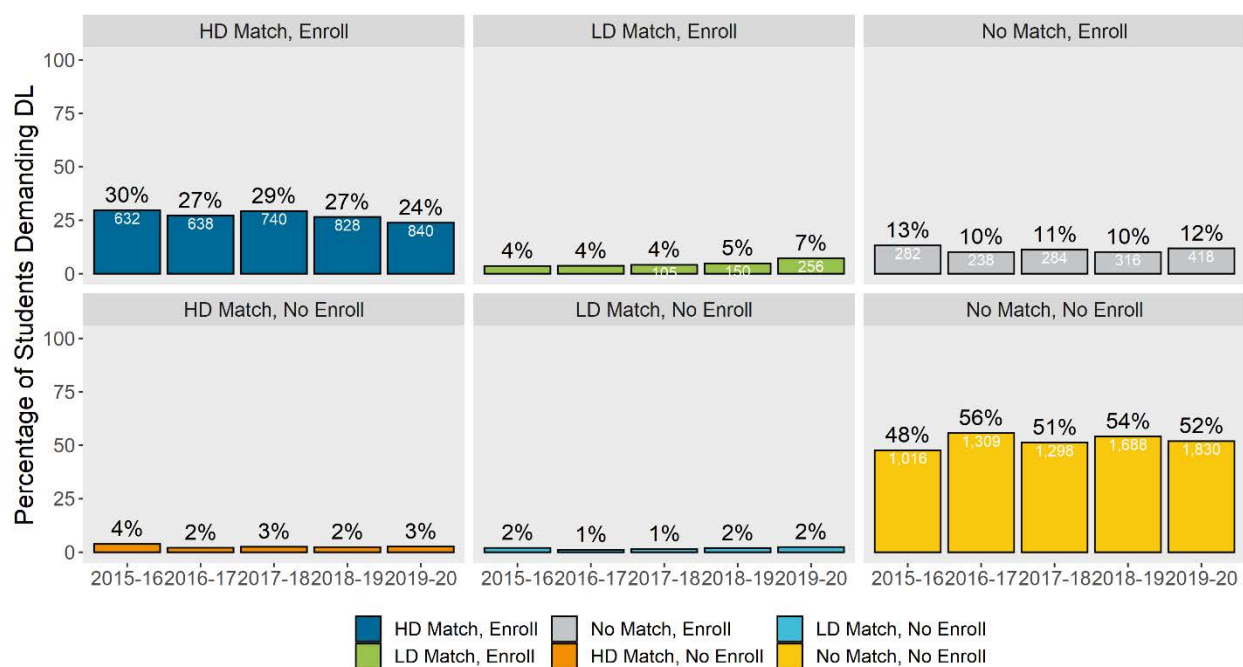
Factors Associated with Matching to DL Programs: Logistic Regression Analysis

Table G2. Factors Associated with Pre-K to 12 Matching to 'High Demand' DL Programs

High Demand Match to DL Program	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	.796	.056	-3.25	.001	.694	.913	**
2017-18	.866	.059	-2.10	.036	.757	.990	*
2018-19	.723	.048	-4.89	.000	.635	.823	***
2019-20	.621	.041	-7.26	.000	.546	.706	***
Grade 6 to 12	6.624	.310	40.35	.000	6.043	7.261	***
EL Status	**1.355**	.075	5.50	.000	1.216	1.509	***
SWD Status	.938	.065	-0.92	.355	.820	1.074	
At-Risk Status	**1.242**	.062	4.31	.000	1.125	1.37	***
Black/African-American	**.870**	.053	-2.29	.022	.772	.980	*
Latinx/Hispanic of any race	1.113	.069	1.73	.083	.986	1.257	
Two or more races	1.144	.106	1.46	.144	.955	1.371	
Not Black, Latinx, or Two or more races	.621	.220	-1.34	.179	.310	1.245	
Male	1.064	.044	1.50	.134	.981	1.154	
Constant	.275	.018	-19.22	.000	.241	.314	***

Pseudo r-squared		0.128	Number of obs		13648.000
Chi-square		2120.516	Prob > chi2		0.000

*** p<.001, ** p<.01, * p<.05

Table G4. Factors Associated with Pre-K to 12 Matching to Any DL Program

Any Match to a DL Program	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	.782	.052	-3.74	.000	.687	.889	***
2017-18	.880	.057	-1.98	.048	.776	.999	*
2018-19	.801	.05	-3.59	.000	.709	.904	***
2019-20	.816	.049	-3.37	.001	.725	.919	**
Grade 6 to 12	4.838	.22	34.60	.000	4.425	5.290	***
EL Status	**1.232**	.064	4.04	.000	1.113	1.363	***
SWD Status	.892	.058	-1.75	.080	.786	1.014	
At-Risk Status	**1.120**	.053	2.39	.017	1.021	1.230	*
Black/African-American	**.832**	.046	-3.34	.001	.747	.927	**
Latinx/Hispanic of any race	**1.166**	.066	2.72	.006	1.044	1.303	**
Two or more races	1.066	.089	0.76	.448	.904	1.256	
Not Black, Latinx, or Two or more races	.577	.191	-1.66	.097	.302	1.105	
Male	**1.084**	.041	2.12	.034	1.006	1.169	*
Constant	.41	.025	-14.41	.000	.363	.463	***
Pseudo r-squared		0.088	Number of obs			13648.000	
Chi-square		1569.951	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05

Factors Associated with Matching to and Enrolling in DL Programs: Logistic Regression Analysis

Table G5. Factors Associated with Pre-K to 12 Matching to and Enrolling in a 'High Demand' DL Program

'High Demand' Match and Enroll in DL Program	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.546	.297	2.27	.023	1.061	2.253	*
2017-18	1.369	.244	1.76	.078	.965	1.942	
2018-19	1.320	.226	1.62	.105	.943	1.848	
2019-20	1.073	.175	0.43	.665	.779	1.478	
Grade 6 to 12	.730	.085	-2.69	.007	.580	.918	**
EL Status	1.013	.155	0.08	.934	.750	1.367	
SWD Status	**.732**	.115	-1.98	.047	.537	.996	*
At-Risk Status	**.623**	.074	-3.98	.000	.493	.786	***
Black/African-American	**.388**	.080	-4.57	.000	.259	.582	***
Latinx/Hispanic of any race	.711	.155	-1.56	.119	.463	1.092	
Two or more races	2.124	1.034	1.55	.122	.818	5.514	
Not Black, Latinx, or Two or more races	.778	.829	-0.24	.814	.096	6.286	
Male	1.183	.134	1.48	.139	.947	1.478	
Constant	18.049	3.996	13.07	.000	11.696	27.854	***
Pseudo r-squared		0.048	Number of obs			4041.000	
Chi-square		118.032	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05

Table G6. Factors Associated with Pre-K to 12 Matching to and Enrolling in Any DL Program

Any Match and Enroll in DL Program	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.611	.251	3.06	.002	1.186	2.187	**
2017-18	1.366	.198	2.16	.031	1.029	1.814	*
2018-19	1.185	.160	1.26	.208	.91	1.544	
2019-20	1.024	.131	0.19	.851	.797	1.316	
Grade 6 to 12	1.285	.119	2.70	.007	1.071	1.541	**
EL Status	1.177	.14	1.36	.173	.931	1.487	
SWD Status	**.698**	.091	-2.77	.006	.541	.900	**
At-Risk Status	**.766**	.076	-2.68	.007	.630	.931	**
Black/African-American	**.618**	.083	-3.60	.000	.475	.803	***
Latinx/Hispanic of any race	.858	.121	-1.09	.278	.651	1.131	
Two or more races	**2.648**	.829	3.11	.002	1.434	4.892	**
Not Black, Latinx, or Two or more races	.816	.635	-0.26	.793	.177	3.75	
Male	1.103	.097	1.11	.266	.928	1.31	
Constant	6.743	.988	13.03	.000	5.060	8.986	***

Pseudo r-squared		0.024	Number of obs		4969.000
Chi-square		88.591	Prob > chi2		0.000

*** p<.001, ** p<.01, * p<.05

Demand, Match, and Enrollment Trends: Majority DL

English Learners

Figure G27. Demand, Match and Enrollment Pathways among English Learners
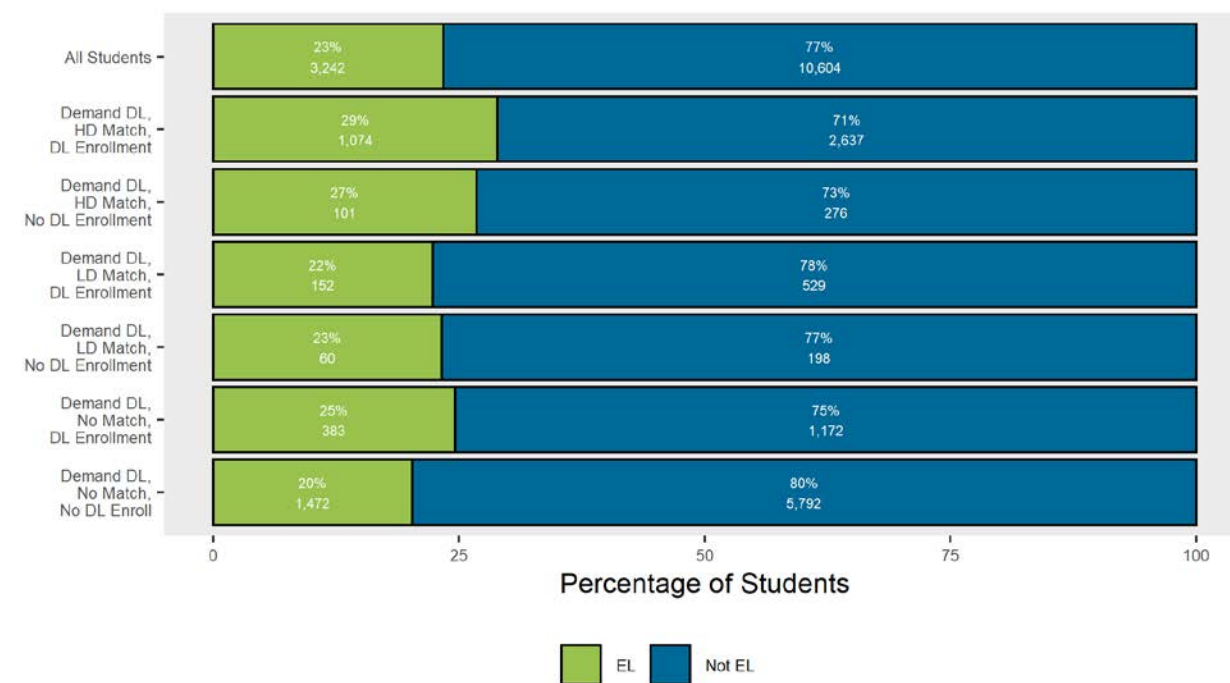
Students with Disabilities

Figure G28. Demand, Match and Enrollment Pathways among Students with Disabilities
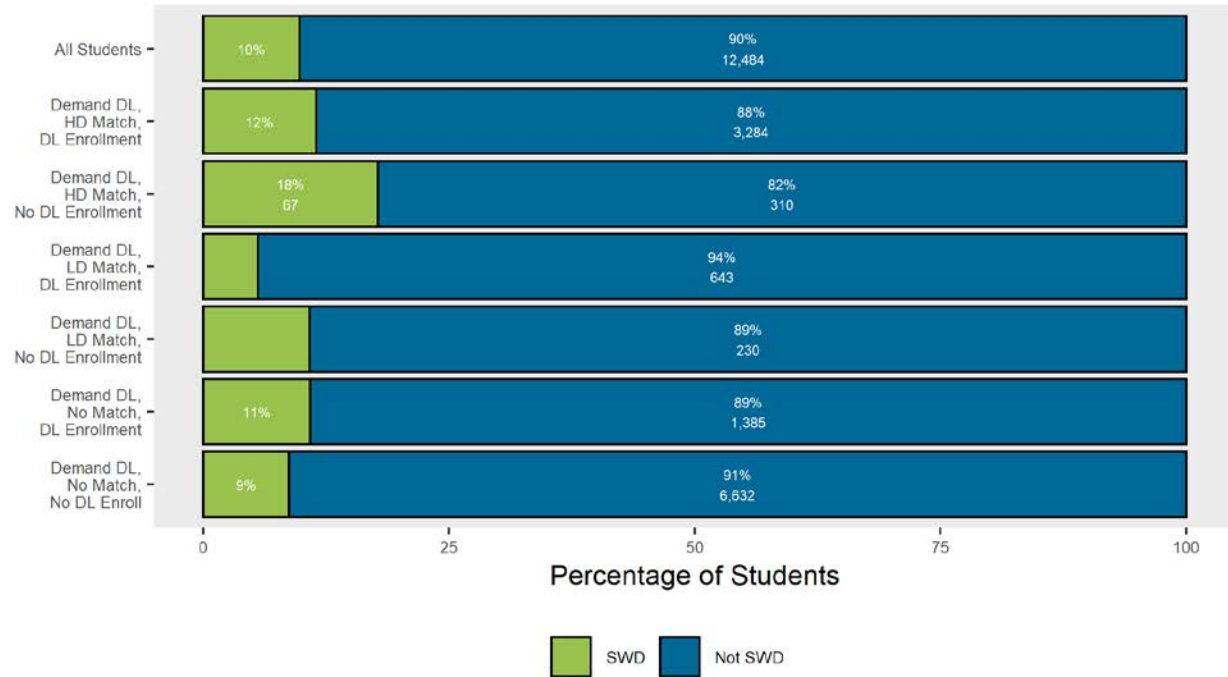
Students who are At-Risk

Figure G29. Demand, Match and Enrollment Pathways among Students who are At-Risk
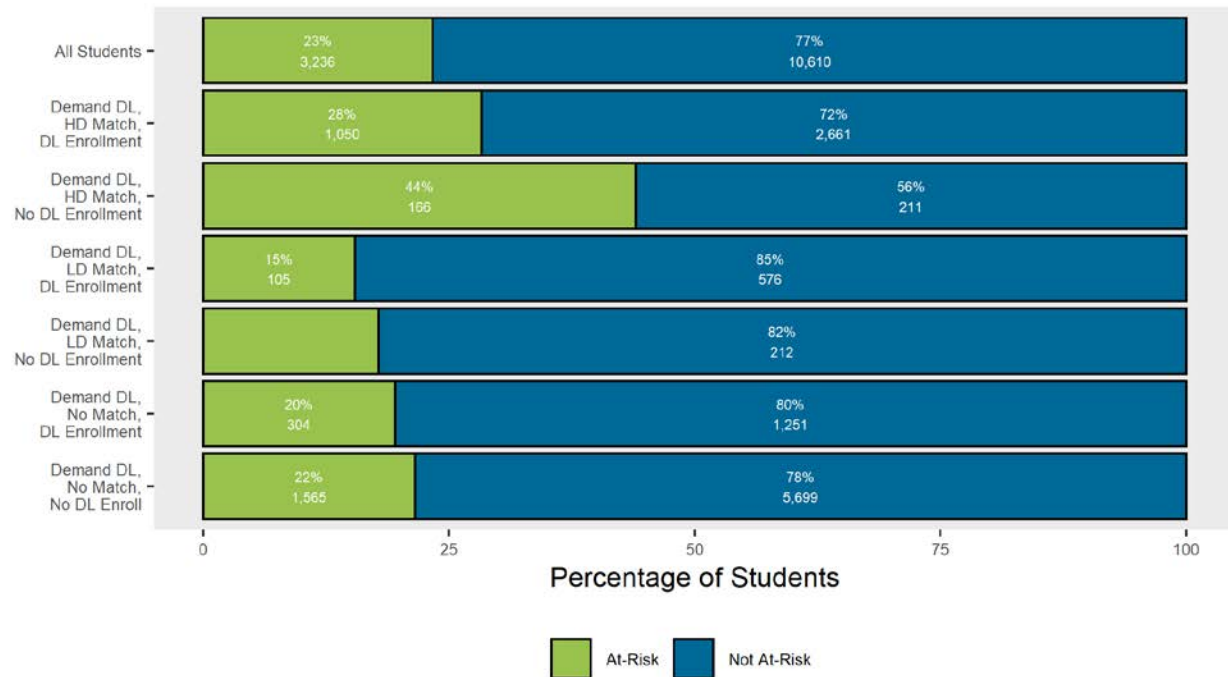
English Learners with Disabilities

Figure G30. Demand, Match and Enrollment Pathways among English Learners who are Students with Disabilities
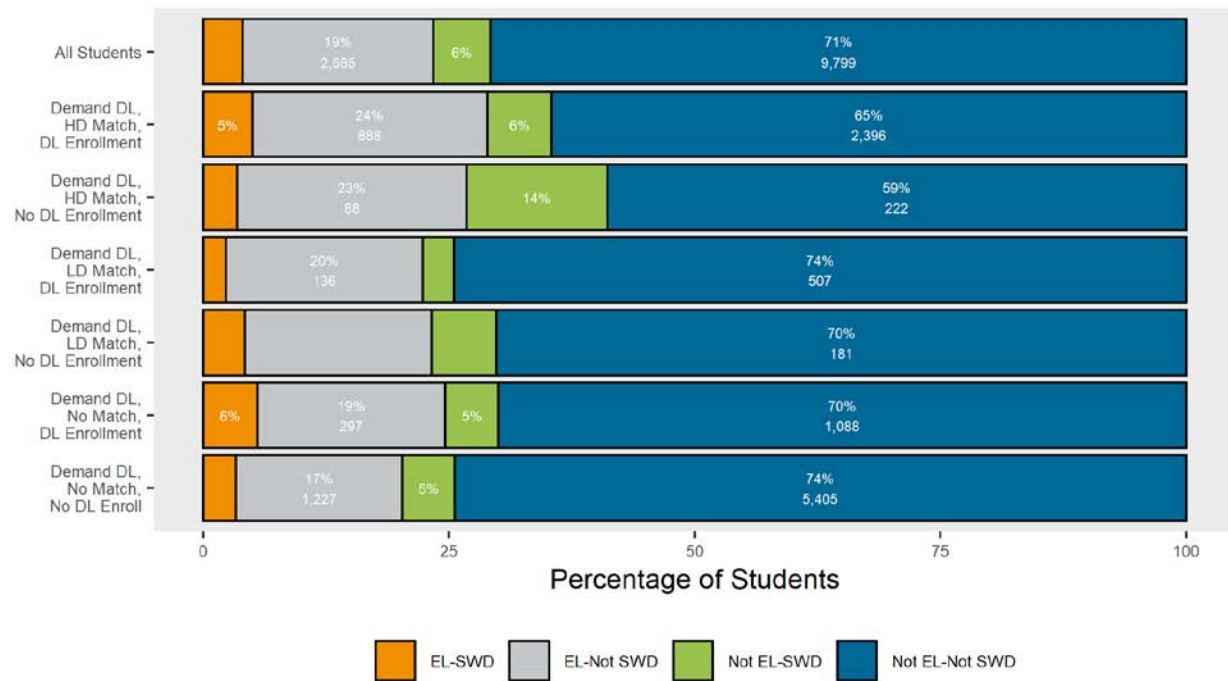
English Learners who are At-Risk

Figure G31. Demand, Match and Enrollment Pathways among English Learners who are At-Risk
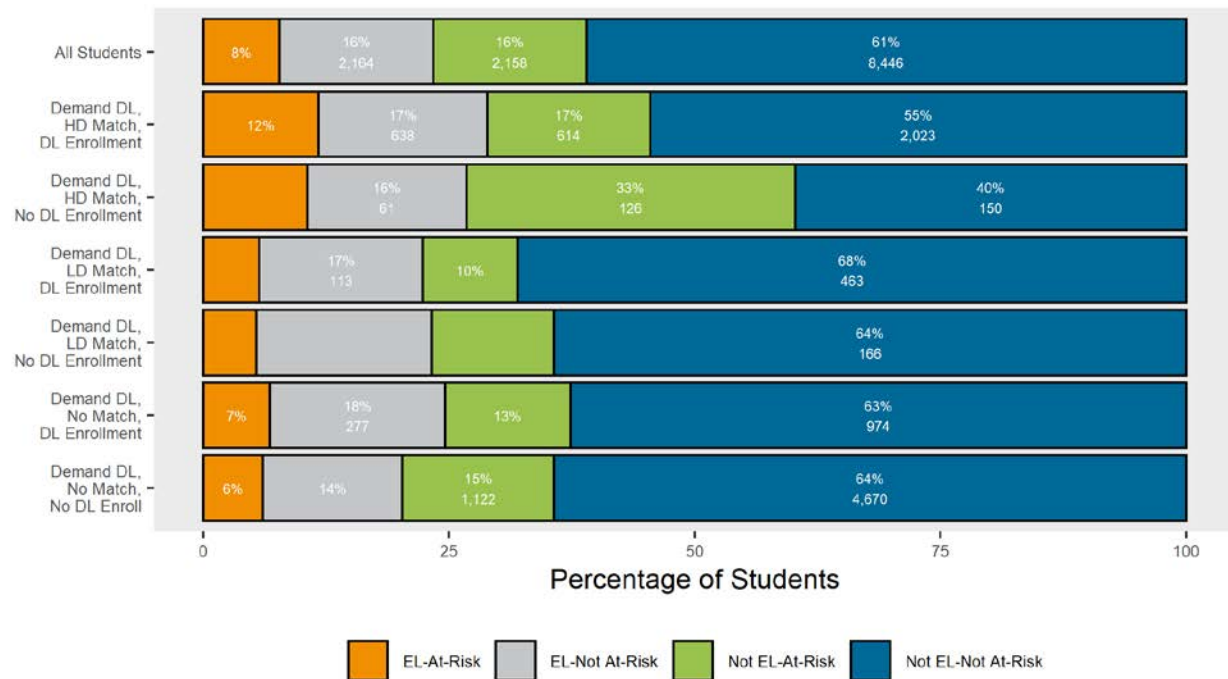
Students with Disabilities who are At-Risk

Figure G32. Demand, Match and Enrollment Pathways among Students with Disabilities who are At-Risk
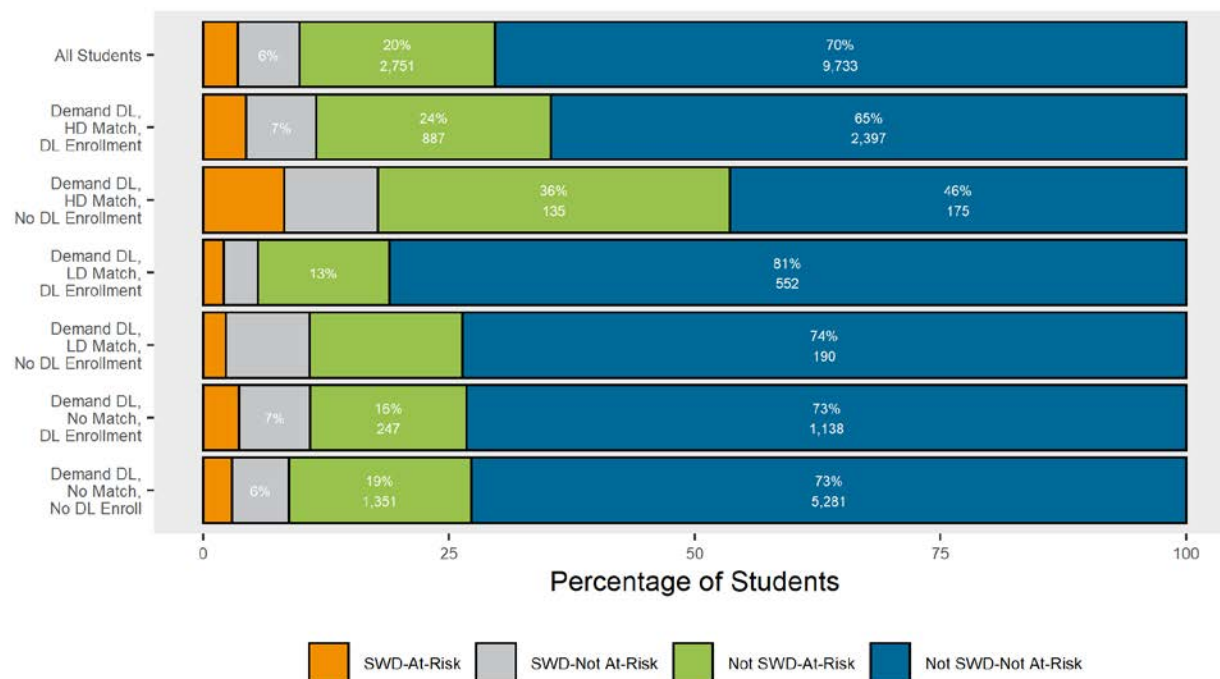
Student Race/Ethnicity

Figure G33. Demand, Match and Enrollment Pathways, by Student Race/Ethnicity
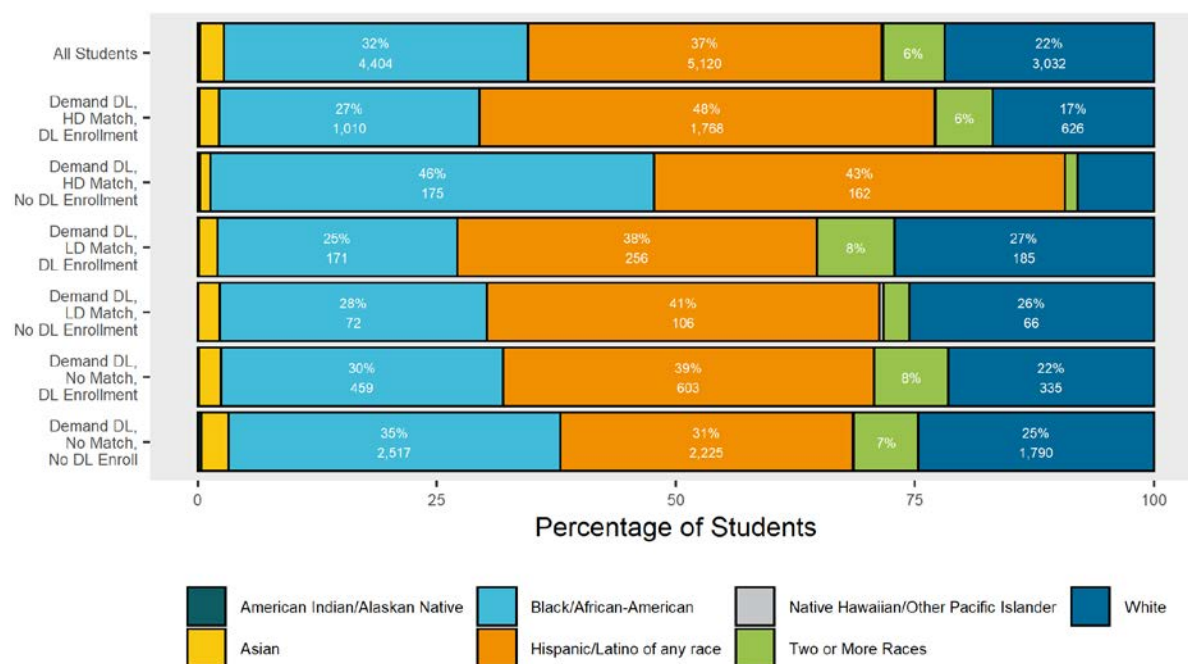
Student Gender and Race/Ethnicity

Figure G34. Demand, Match and Enrollment Pathways, by Student Gender and Race/Ethnicity
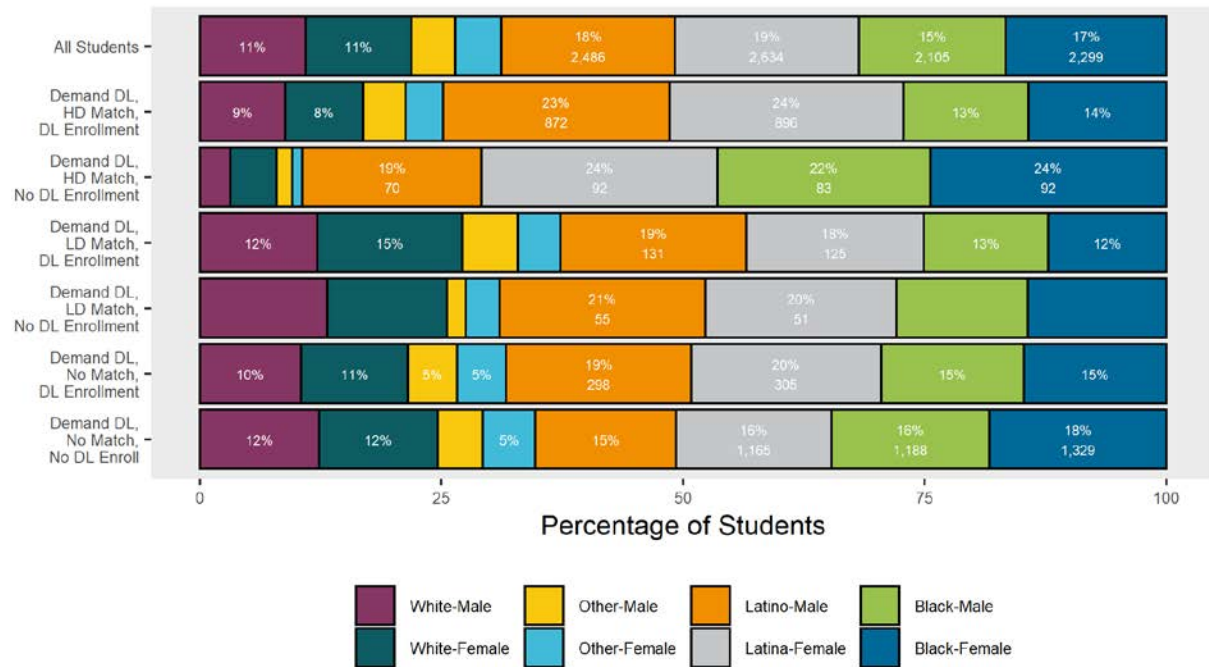
Student Ward of Residence

Figure G35. Demand, Match and Enrollment Pathways, by Student Ward of Residence
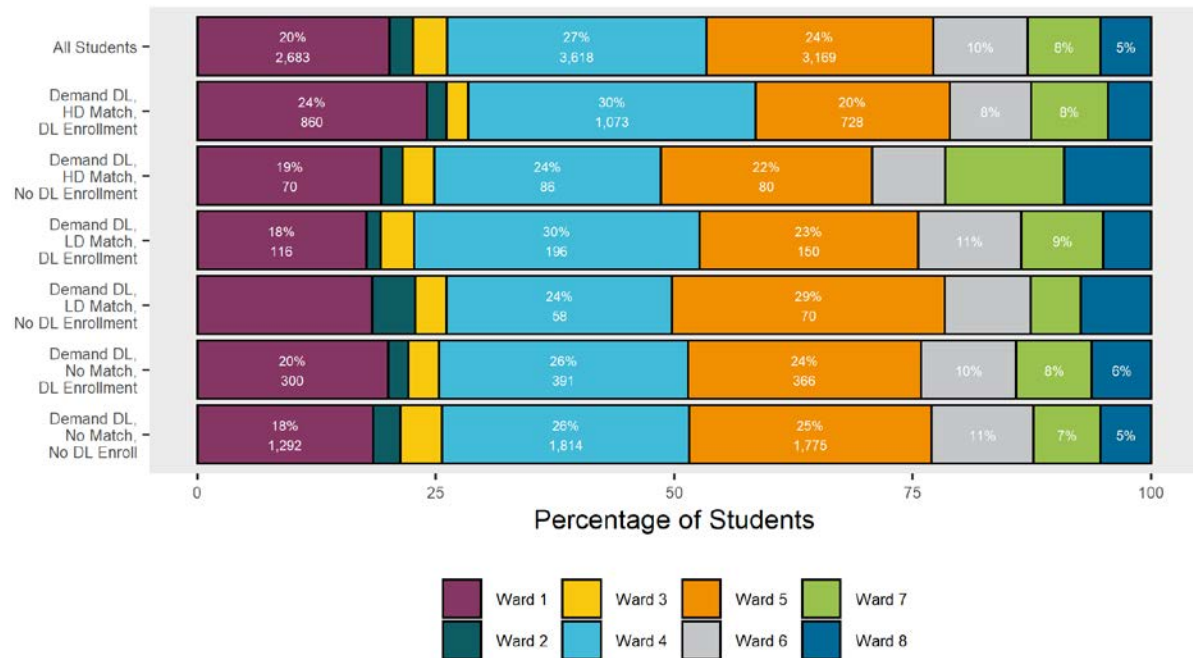
Continuous Enrollment Demand

Continuous Enrollment Demand for DL Programs: 2015-16 through 2018-19

Figure G36 shows the number of students who were enrolled in dual language programs between the 2015-16 and 2018-19 and whether they demonstrated continuous enrollment demand in the subsequent school year.

Figure G36. Continuous Enrollment Demand for Dual Language Programs: 2015-16 through 2018-19
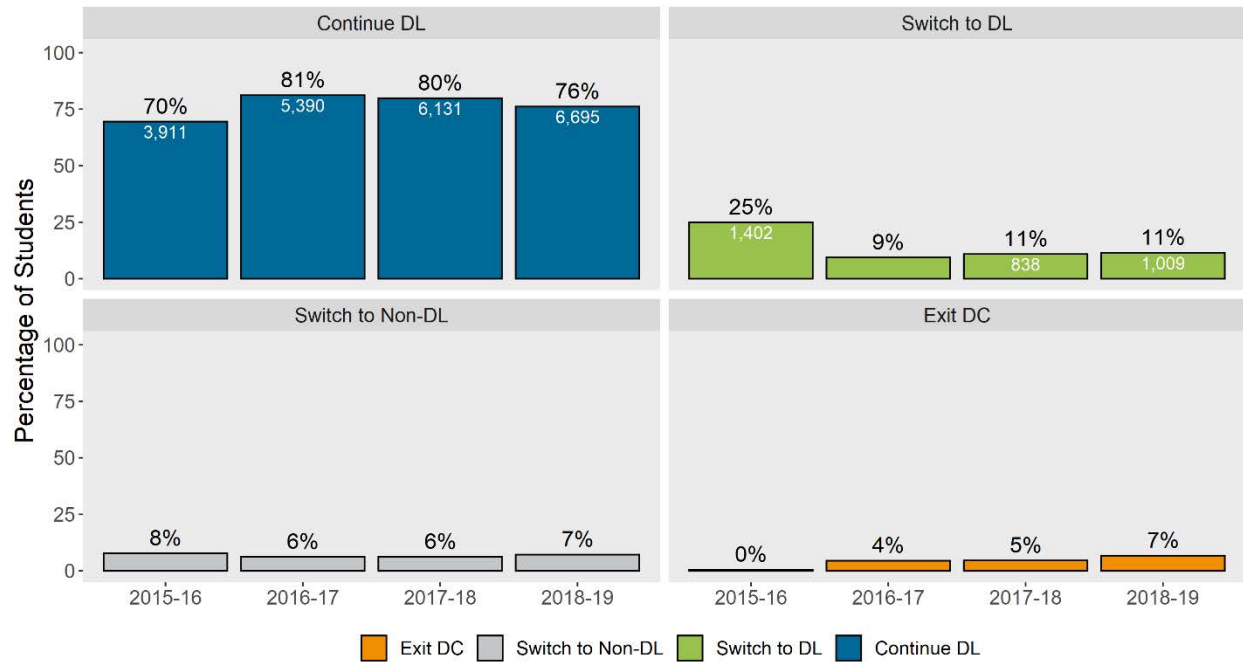
Continued Demand for DL Programs: Logistic Regression Analysis

Table G7. Factors Associated with Pre-K to 12 Continued Demand for DL Programs

Continued Enrollment	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	1.006	.021	0.29	.775	.966	1.048	
2017-18	1.127	.023	5.87	.000	1.083	1.173	***
2018-19	1.225	.025	10.12	.000	1.178	1.274	***
Grade 6 to 12	**.498**	.008	-42.22	.000	.482	.514	***
At-Risk Status	**.574**	.010	-33.12	.000	.555	.593	***
SWD Status	**.911**	.020	-4.35	.000	.873	.950	***
EL Status	**1.333**	.026	14.56	.000	1.282	1.385	***
Black/African-American	**.404**	.009	-41.07	.000	.387	.422	***
Latinx/Hispanic of any race	**2.574**	.058	42.30	.000	2.464	2.689	***
Two or more races	**1.718**	.059	15.69	.000	1.606	1.838	***
Not Black, Latinx, or Two or more races	1.046	.045	1.03	.304	.96	1.138	
Male	**.951**	.013	-3.57	.000	.925	.978	***
Residence and School Same Ward	**.569**	.008	-38.80	.000	.553	.586	***
Selective School	**2.552**	.070	34.09	.000	2.418	2.693	***
STAR 4+	**2.201**	.034	50.56	.000	2.135	2.269	***
Constant	.120	.003	-75.09	.000	.113	.127	***

Pseudo r-squared		0.176	Number of obs			324287	
Chi-square		31632.681	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05*

Table G8. Factors Associated with Grade Pre-K to 5 Continued Demand for DL Programs

Continued Enrollment	OR	St.Err.	t-value	p-value	[95% Conf Interval]		Sig
2016-17	.992	.025	-0.31	.756	.944	1.043	
2017-18	1.030	.026	1.18	.240	.981	1.081	
2018-19	1.091	.027	3.51	.000	1.039	1.145	***
At-Risk Status	**.528**	.011	-29.35	.000	.506	.551	***
SWD Status	**.825**	.023	-7.03	.000	.782	.870	***
EL Status	**1.450**	.036	14.97	.000	1.381	1.522	***
Black/African-American	**.358**	.009	-38.87	.000	.34	.377	***
Latinx/Hispanic of any race	**1.967**	.054	24.54	.000	1.863	2.076	***
Two or more races	**1.639**	.065	12.51	.000	1.517	1.771	***
Not Black, Latinx, or Two or more races	1.043	.054	0.82	.413	.943	1.155	
Male	**.953**	.017	-2.75	.006	.921	.986	**
Residence and School Same Ward	**.419**	.007	-48.99	.000	.405	.434	***
STAR 4+	**2.688**	.054	49.32	.000	2.585	2.796	***
Constant	.151	.005	-57.59	.000	.141	.161	***

Pseudo r-squared		0.184	Number of obs			177163	
Chi-square		20722.673	Prob > chi2			0.000	

*** p<.001, ** p<.01, * p<.05*

Table G9. Factors Associated with Grade 6 to 12 Continued Demand for DL Programs

Continued Enrollment	OR	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
2016-17	1.071	.041	1.81	.070	.994	1.154	
2017-18	1.375	.050	8.81	.000	1.281	1.476	***
2018-19	1.556	.055	12.50	.000	1.452	1.668	***
At-Risk Status	**.650**	.017	-16.14	.000	.617	.685	***
SWD Status	1.048	.036	1.36	.174	.979	1.123	
EL Status	**1.228**	.041	6.15	.000	1.15	1.311	***
Black/African-American	**.618**	.028	-10.72	.000	.566	.675	***
Latinx/Hispanic of any race	**4.505**	.199	34.03	.000	4.131	4.913	***
Two or more races	**2.016**	.154	9.21	.000	1.737	2.341	***
Not Black, Latinx, or Two or more races	**1.227**	.103	2.43	.015	1.04	1.446	*
Male	**.940**	.022	-2.61	.009	.897	.985	**
Residence and School Same Ward	.973	.024	-1.09	.275	.927	1.022	
STAR 4+	**1.946**	.052	24.85	.000	1.846	2.051	***
Selective School	**2.878**	.081	37.45	.000	2.723	3.042	***
Constant	.028	.002	-63.75	.000	.025	.031	***

Pseudo r-squared	0.166	Number of obs	147124
Chi-square	10879.198	Prob > chi2	0.000

*** p<.001, ** p<.01, * p<.05

Table G10. Factors Associated with Pre-K to 12 DIscontinued Demand for DL Programs

Discontinued Enrollment	OR	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
2016-17	.621	.044	-6.74	.000	.541	.714	***
2017-18	.620	.042	-6.98	.000	.543	.709	***
2018-19	.712	.046	-5.22	.000	.626	.809	***
Grade 6 to 12	**2.172**	.121	13.92	.000	1.947	2.422	***
At-Risk Status	**1.843**	.095	11.89	.000	1.666	2.038	***
SWD Status	**1.394**	.090	5.17	.000	1.229	1.582	***
EL Status	**.865**	.056	-2.25	.024	.762	.981	*
Black/African-American	**1.856**	.154	7.44	.000	1.577	2.185	***
Latinx/Hispanic of any race	**1.19**	.103	2.00	.045	1.004	1.41	*
Two or more races	.919	.133	-0.58	.560	.691	1.221	
Not Black, Latinx, or Two or more races	1.229	.211	1.20	.232	.877	1.721	
Male	1.071	.050	1.46	.144	.977	1.173	
Residence and School Same Ward	.991	.047	-0.20	.845	.902	1.088	
Selective School	**.429**	.036	-10.22	.000	.365	.504	***
STAR 4+	**.461**	.026	-13.70	.000	.413	.515	***
Constant	.102	.01	-22.63	.000	.084	.124	***

Pseudo r-squared	0.063	Number of obs	25339
Chi-square	927.078	Prob > chi2	0.000

*** p<.001, ** p<.01, * p<.05

Student Characteristics Among Continuous Enrollment Demand Scenarios

English Learners

Figure G37. Continuous Enrollment Demand among English Learners, by School Year

Students with Disabilities

Figure G38. Continuous Enrollment Demand among Students with Disabilities

Students who are At-Risk

Figure G39. Continuous Enrollment Demand among Students who are At-Risk

	2015-16		2016-17		2017-18		2018-19	
All	52% 38,295	48% 35,378	51% 42,685	49% 40,769	49% 41,902	51% 43,344	47% 40,882	53% 45,437
Cont DL	22% 855	78% 3,049	26% 1,395	74% 3,977	25% 1,503	75% 4,583	22% 1,478	78% 5,202
Switch DL	42% 562	58% 762	38% 233	62% 387	35% 286	65% 522	38% 360	62% 578
Switch Non-DL	45% 188	55% 226	40% 174	60% 258	39% 197	61% 313	39% 250	61% 386
Cont Non-DL	54% 36,035	46% 30,890	54% 36,595	46% 31,518	52% 35,530	48% 32,856	50% 33,774	50% 33,649
Exit DC	59% 655	41% 451	48% 4,288	52% 4,629	46% 4,386	54% 5,070	47% 5,020	53% 5,622

Legend: ■ At-Risk ■ Not At-Risk

English Learners with Disabilities

Figure G40. Continuous Enrollment Demand among English Learners with Disabilities

	2015-16			2016-17			2017-18			2018-19		
All	14%	77% 56,676		14%	76% 63,474		10% 14%	73% 62,573		15%	73% 63,165	
Cont DL	17%	72% 2,813		21% 1,131	67% 3,575		25% 1,538	62% 3,752		23% 1,543	64% 4,260	
Switch DL	35% 465	54% 713		20%	68% 419		25% 203	64% 520		22% 202	65% 613	
Switch Non-DL	16%	70% 289		15% 10%	69% 300		24% 122	60% 305		20% 130	11%	60% 379
Cont Non-DL	14%	78% 52,188		15%	77% 52,397		15%	75% 51,027		15%	75% 50,252	
Exit DC	28% 309	61% 673		15%	76% 6,783		11% 14%	74% 6,969		17%	72% 7,661	

Legend: ■ EL-SWD ■ Not EL-Not SWD ■ EL-Not SWD ■ Not EL-SWD
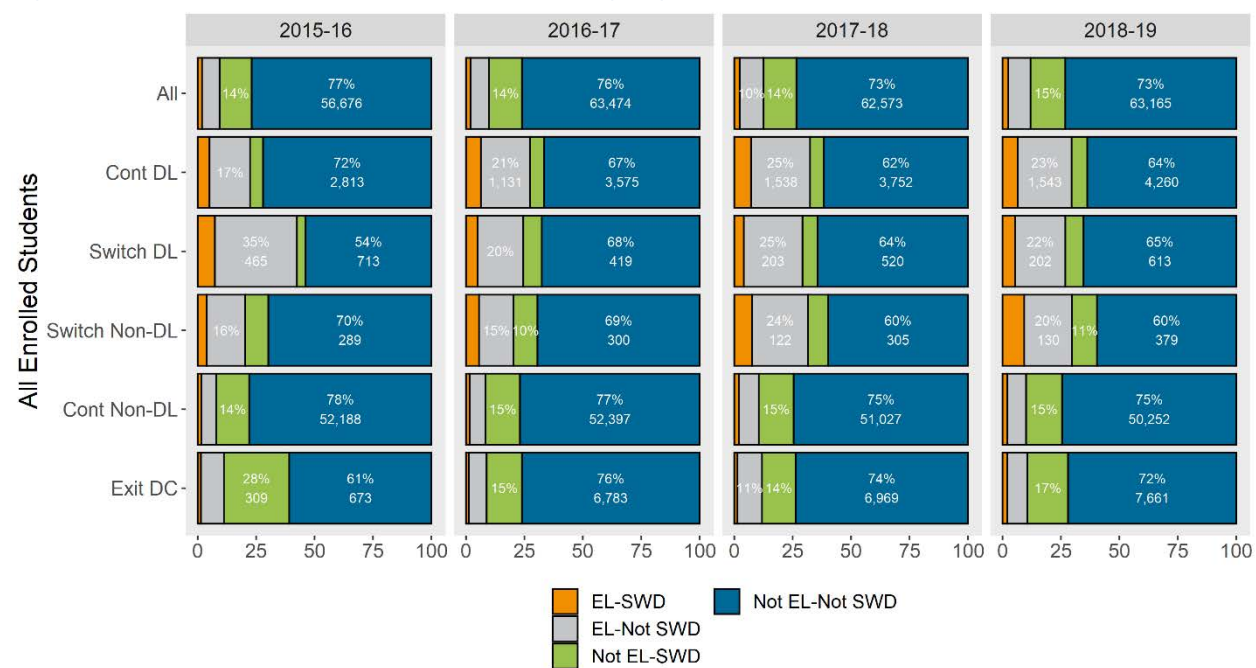
English Learners who are At-Risk

Figure G41. Continuous Enrollment Demand among English Learners who are At-Risk

Students with Disabilities who are At-Risk

Figure G42. Continuous Enrollment Demand among Students with Disabilities who are At-Risk
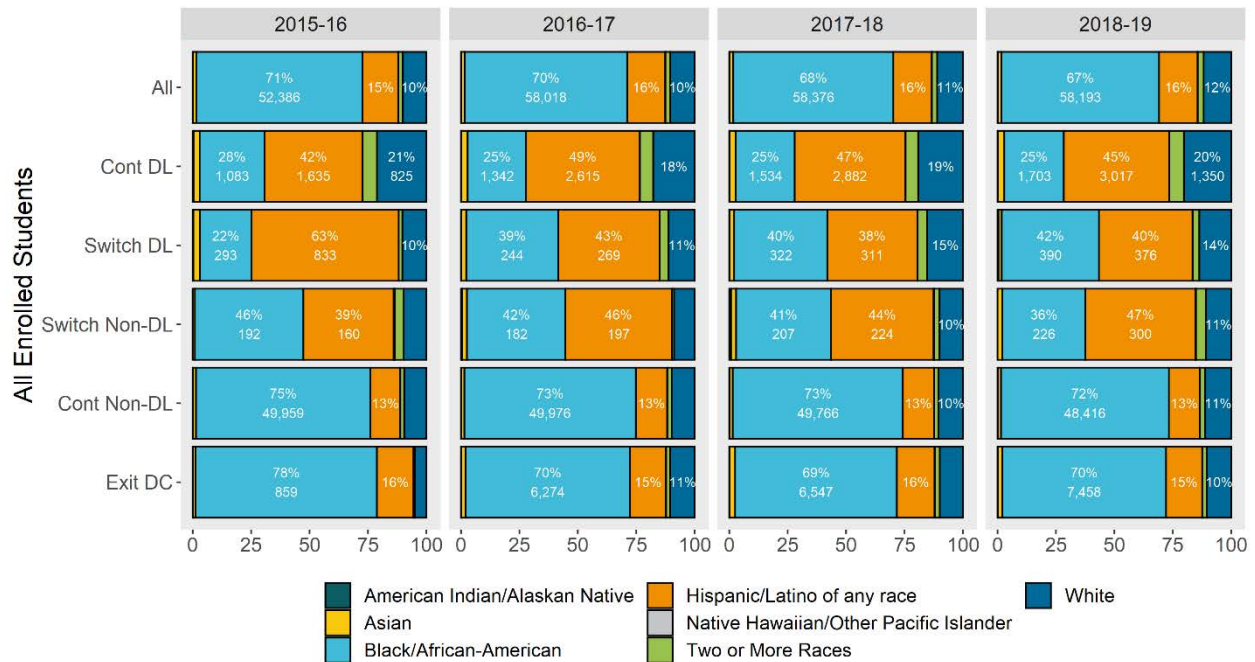
Student Gender

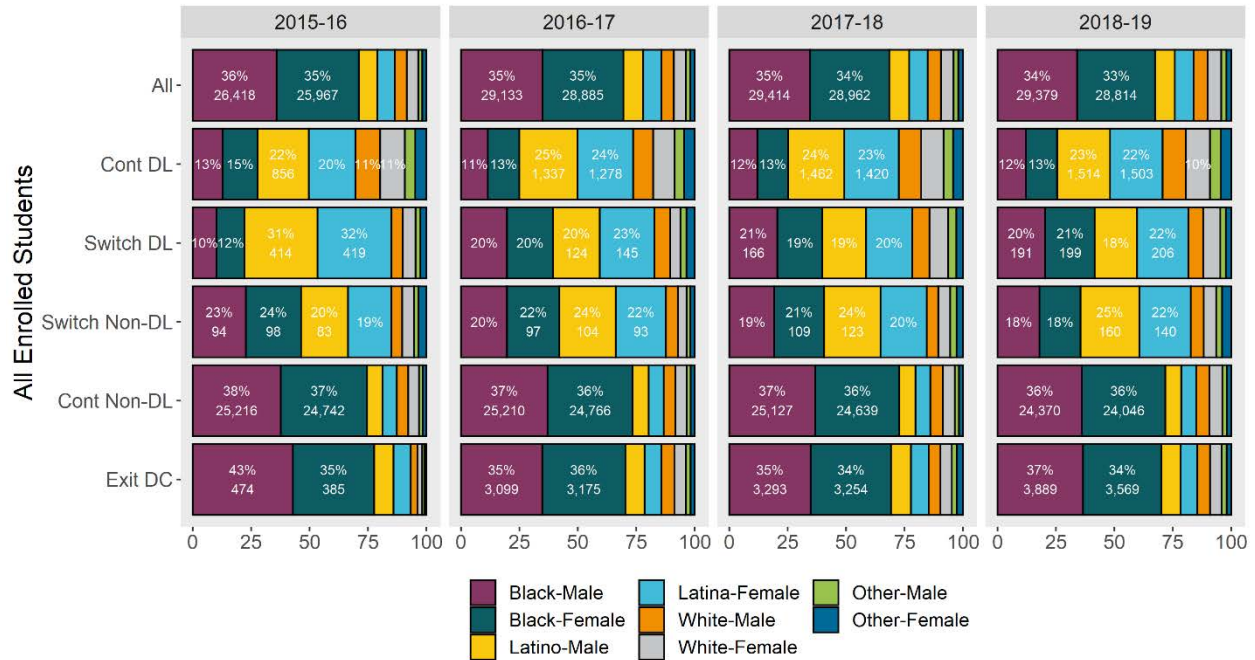Figure G43. Continuous Enrollment Demand, by Student Gender

	2015-16		2016-17		2017-18		2018-19	
All	51% 37,285	49% 36,387	50% 42,133	50% 41,321	51% 43,163	49% 42,083	51% 43,775	49% 42,544
Cont DL	50% 1,943	50% 1,961	49% 2,632	51% 2,740	50% 3,022	50% 3,064	50% 3,309	50% 3,371
Switch DL	48% 640	52% 684	49% 304	51% 316	50% 404	50% 404	47% 442	53% 496
Switch Non-DL	49% 204	51% 210	50% 218	50% 214	51% 260	49% 250	51% 325	49% 311
Cont Non-DL	51% 33,890	49% 33,034	51% 34,484	49% 33,629	51% 34,701	49% 33,685	51% 34,123	49% 33,300
Exit DC	55% 608	45% 498	50% 4,495	50% 4,422	51% 4,776	49% 4,680	52% 5,576	48% 5,066

Y-axis: All Enrolled Students. X-axis: 0 25 50 75 100.

Legend: ■ Male ■ Female

Student Race/Ethnicity

Figure G44. Continuous Enrollment Demand, by Student Race/Ethnicity

	2015-16			2016-17			2017-18			2018-19		
All	71% 52,386	15%	10%	70% 58,018	16%	10%	68% 58,376	16%	11%	67% 58,193	16%	12%
Cont DL	28% 1,083	42% 1,635	21% 825	25% 1,342	49% 2,615	18%	25% 1,534	47% 2,882	19%	25% 1,703	45% 3,017	20% 1,350
Switch DL	22% 293	63% 833	10%	39% 244	43% 269	11%	40% 322	38% 311	15%	42% 390	40% 376	14%
Switch Non-DL	46% 192	39% 160		42% 182	46% 197		41% 207	44% 224	10%	36% 226	47% 300	11%
Cont Non-DL	75% 49,959	13%		73% 49,976	13%		73% 49,766	13%	10%	72% 48,416	13%	11%
Exit DC	78% 859	16%		70% 6,274	15%	11%	69% 6,547	16%		70% 7,458	15%	10%

Y-axis: All Enrolled Students. X-axis: 0 25 50 75 100.

Legend:
■ American Indian/Alaskan Native   ■ Hispanic/Latino of any race   ■ White
■ Asian   ■ Native Hawaiian/Other Pacific Islander
■ Black/African-American   ■ Two or More Races

Student Gender and Race/Ethnicity

Figure G45. Continuous Enrollment Demand, by Student Gender and Race/Ethnicity

Native Language

Figure G46. Continuous Enrollment Demand, by Student Native Language

Appendix H: Enrollment Projections

Methodology

Projected Enrollment

Data from the annual enrollment audit from the 2015-16 through 2019-20 school years was used to project anticipated future enrollment in DL programs over the next five years. Projections were made using an exponential smoothing method. To account for differences in the rate of growth in enrollment between student groups, separate projections were created for unique student groups and then combined to create the overall projection model. Each student was assigned to one unique student group based on English learner status, students with disabilities status, at-risk status, and the combination of these statuses to determine individual rates of growth for each student group.

Projected Unmet Demand

Lottery data was used to estimate projected unmet demand based on the number of students who selected a DL program as their top choice but were not matched to a DL program. Information on the rate of enrollment among all students matching to a DL program from 2015-16 through 2019-20 was used to project the annual number of students matching to a DL program who would not choose to enroll; this calculation was used to downward adjust the unmet demand projections to better capture the anticipated number of students each year who would accept a DL program match.

It is important to note that there are only five DL programs in DC that serve students enrolled in grades 6 to 12. Of these, District of Columbia International (DCI) PCS and Columbia Heights Educational Campus (CHEC; grades 9 to 12) require the use of the common lottery for entry into their program. MacFarland Middle School, CHEC (grades 6 to 8), and Roosevelt HS (grades 9-12) allow entry into their DL program to students who live in-boundary and to students who are matriculating directly from another DCPS DL program. Due to the ability for students to access these programs without participating in the lottery, unmet demand projections cannot fully account for the demand and enrollment trends of these students. However, because students who choose to transition directly to a DL program due to by-right or in-boundary preference are both demonstrating demand for DL programs and having this demand met, unmet demand projections relaying on lottery data do represent the full population of students who have unmet demand for DL programs. Findings should be interpreted with caution, however, given that most students included in the unmet demand projections for grades 6 to 12 were seeking enrollment at DCI.

Projected Enrollment Capacity Needed to Support a K12 Pipeline

To determine the enrollment capacity needed to support a K12 pipeline, historical enrollment data from the 2015-16 through 2019-20 school year was used to estimate the number of rising sixth graders enrolled in DL programs in each school year as well as the number of seats being vacated by rising seventh graders in all DL programs serving sixth grade. Enrollment projections were then used to estimate the number of rising sixth graders that are expected to be enrolled from the 2020-21 through 2029-30 school years as well as to estimate the number of rising seventh graders who are expected to vacate seats to rising sixth graders in those same years. Because cohorts of rising sixth graders were typically larger than the number of seats vacated, the projected enrollment capacity needed to support a K12 pipeline was calculated by summing the cumulative total seats that would be needed across DL programs serving grades 6 to 12 if all members of each cohort of rising sixth graders wished to matriculate to a DL program.

Student Group Enrollment Projections

Projected Enrollment: English Learners

Figure H1. DL Programs Projected Enrollment for Grade Pre-K to 5 DL Programs through the 2024-25 School Year among English Learners
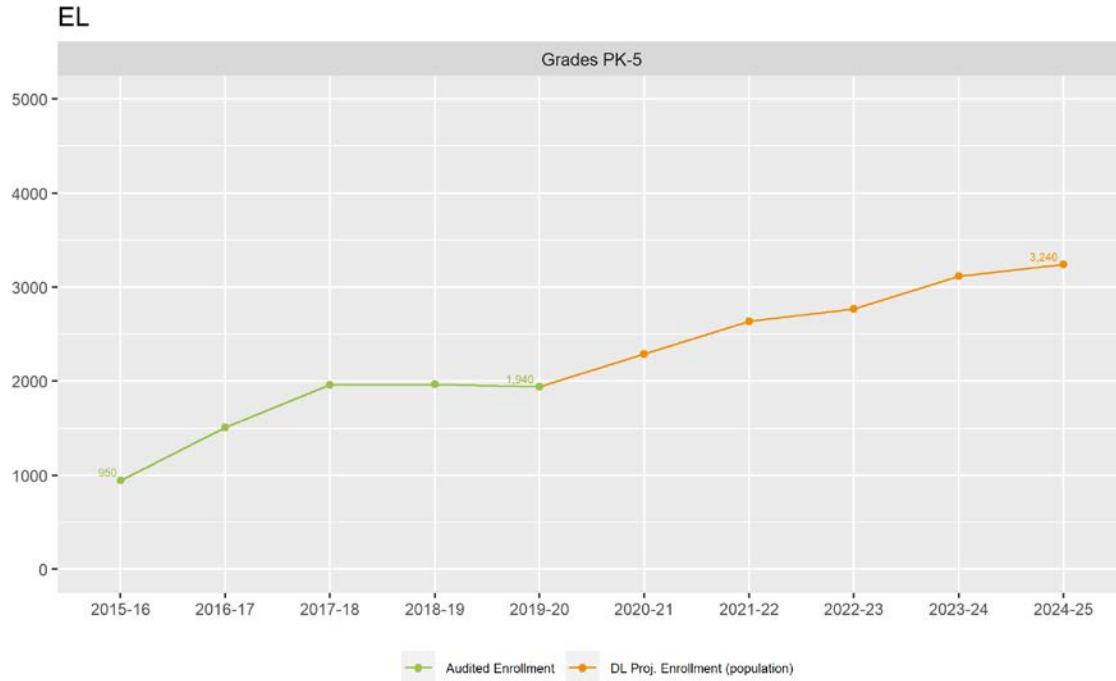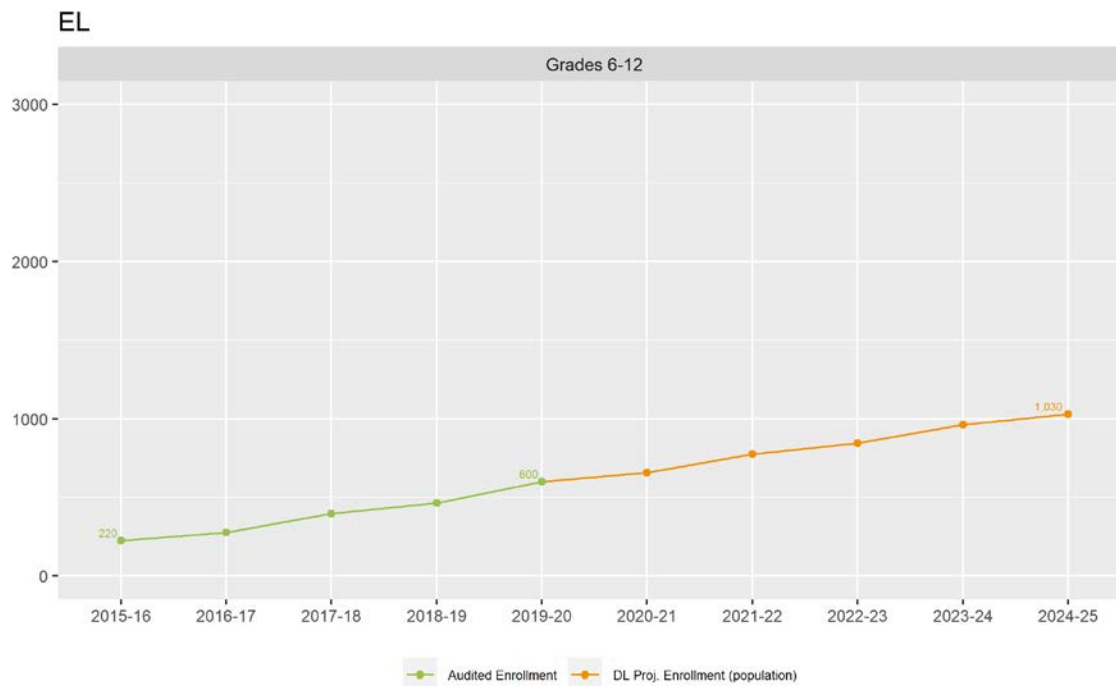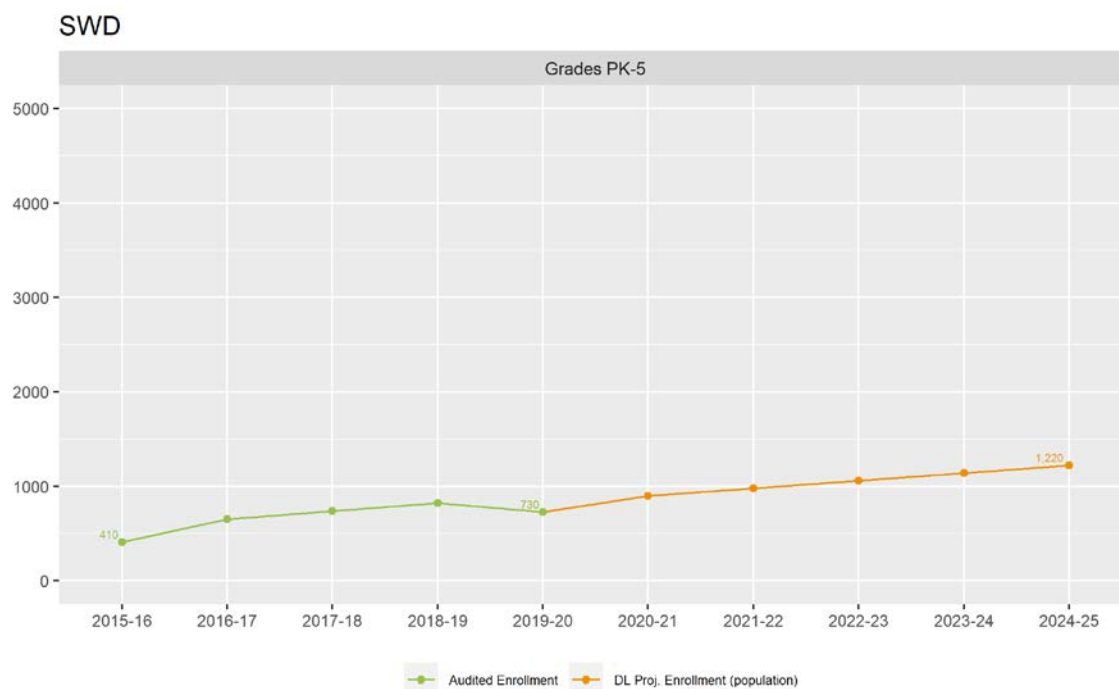

Figure H2. DL Programs Projected Enrollment for Grade 6 to 12 DL Programs through the 2024-25 School Year among English Learners
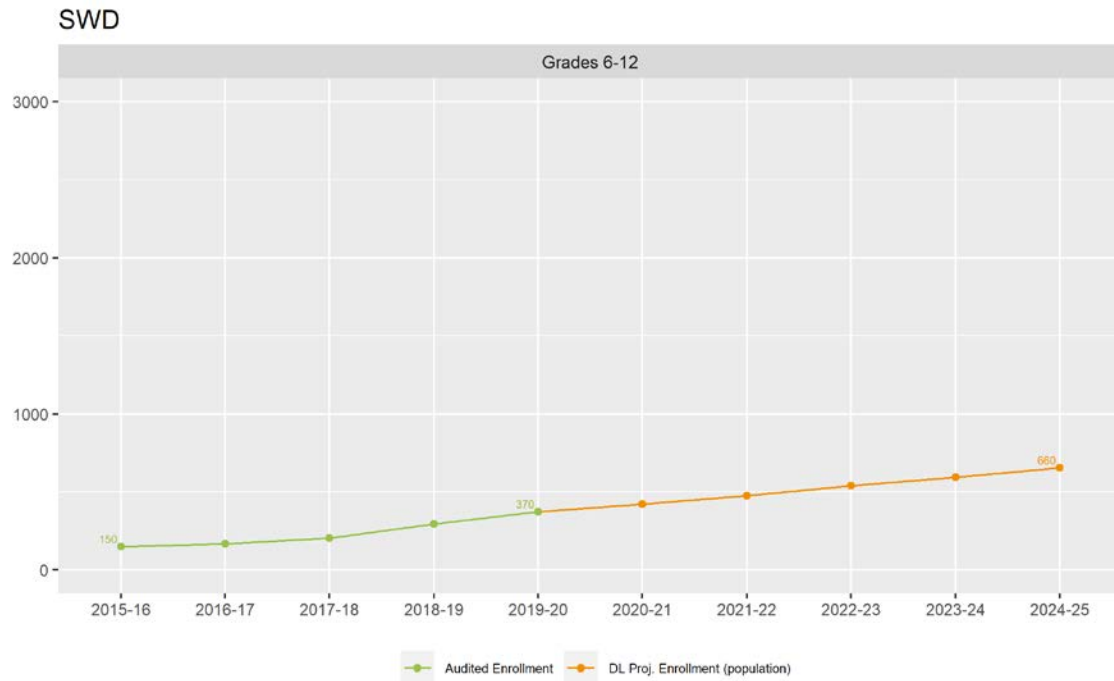
Projected Enrollment: Students with Disabilities

Figure H3. DL Programs Projected Enrollment for Grade Pre-K to 5 DL Programs through the 2024-25 School Year among Students with Disabilities
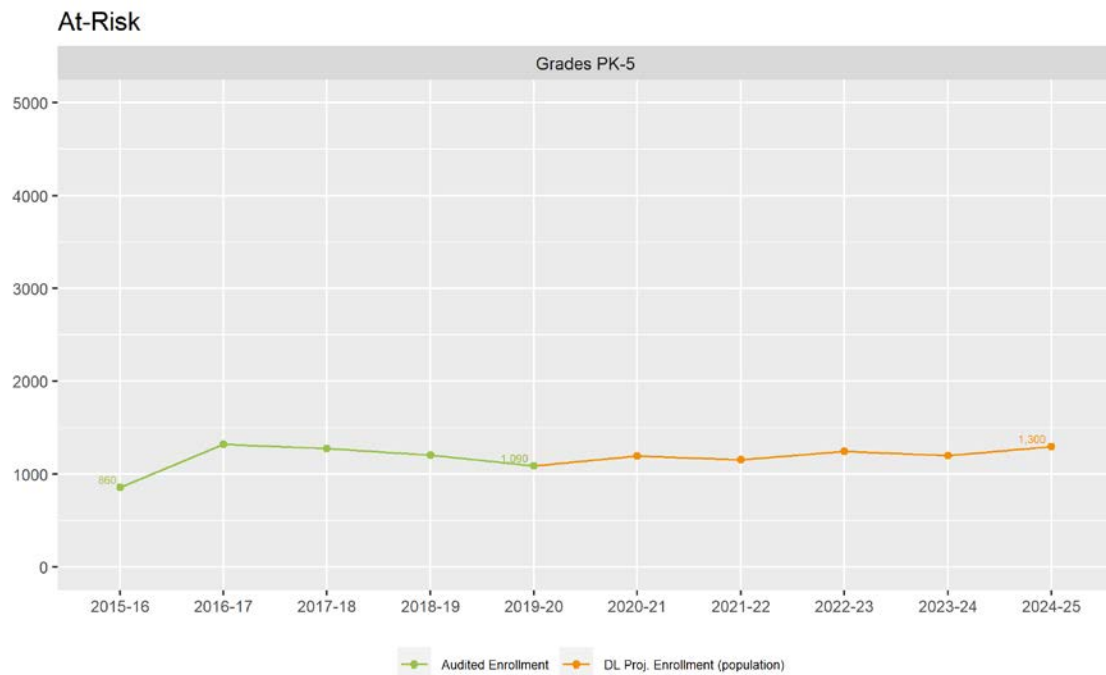
Figure H4. DL Programs Projected Enrollment for Grade 6 to 12 DL Programs through the 2024-25 School Year among Students with Disabilities

SWD

Grades 6-12

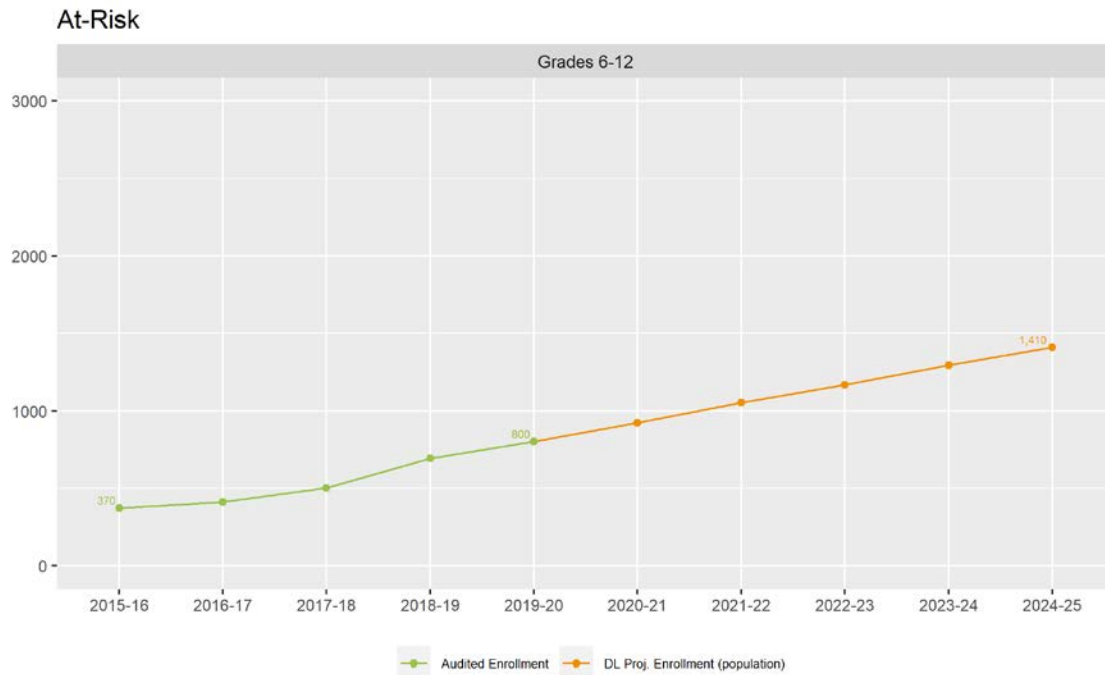Audited Enrollment · DL Proj. Enrollment (population)

Projected Enrollment: Students who are At-Risk

Figure H5. DL Programs Projected Enrollment for Grade Pre-K to 5 DL Programs through the 2024-25 School Year among Students who are At-Risk
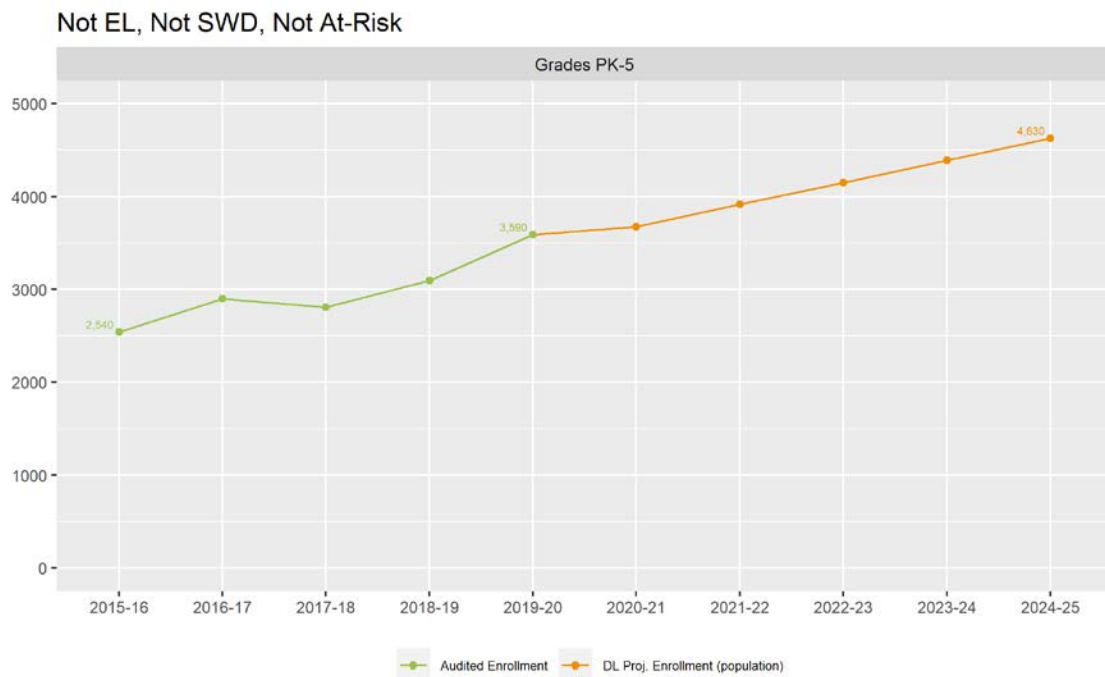
At-Risk

Grades PK-5

Audited Enrollment · DL Proj. Enrollment (population)

Figure H6. DL Programs Projected Enrollment for Grade 6 to 12 DL Programs through the 2024-25 School Year among Students who are At-Risk

Projected Enrollment: Students who are not English learners, not students with disabilities, and not at-risk

Figure H7. DL Programs Projected Enrollment for Grade Pre-K to 5 DL Programs through the 2024-25 School Year among Students who are not English learners, not Students with Disabilities, and not At-Risk

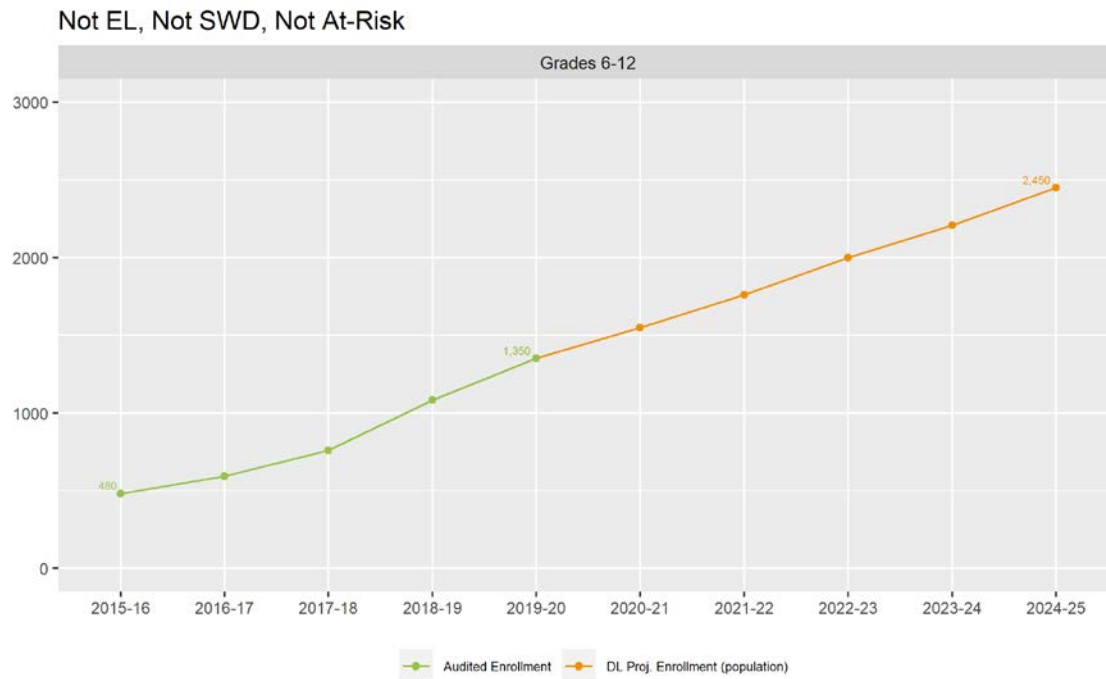Figure H8. Programs Projected Enrollment for Grade 6 to 12 DL Programs through the 2024-25 School Year among Students who are At-Risk Students who are not English learners, not Students with Disabilities, and not At-Risk

Not EL, Not SWD, Not At-Risk

Unmet Demand Projections

Projected Demand: English Learners

Figure H9. Projected Unmet Demand for English Learners (Grades PK to 5: 2020-21 through 2024-25)

Figure H10. Projected Unmet Demand for English Learners (Grades 6 to 12: 2020-21 through 2024-25)

Projected Demand: Students with Disabilities

Figure H11. Projected Unmet Demand for Students with Disabilities (Grades PK to 5: 2020-21 through 2024-25)
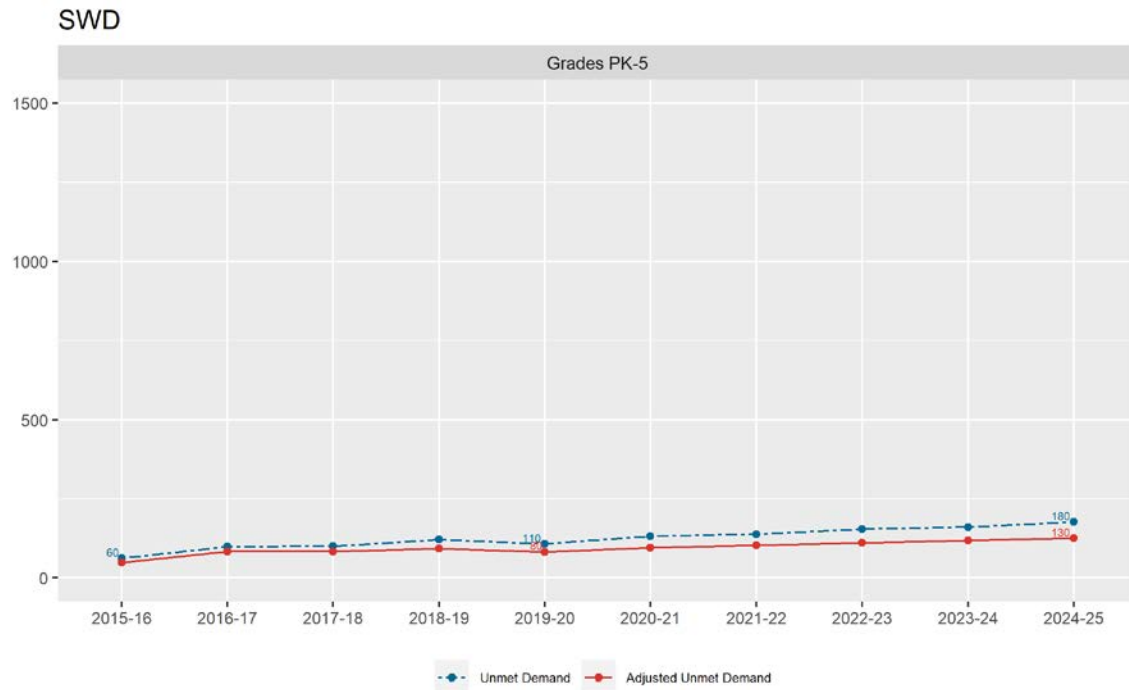
Figure H12. Projected Unmet Demand for Students with Disabilities (Grades 6 to 12: 2020-21 through 2024-25)
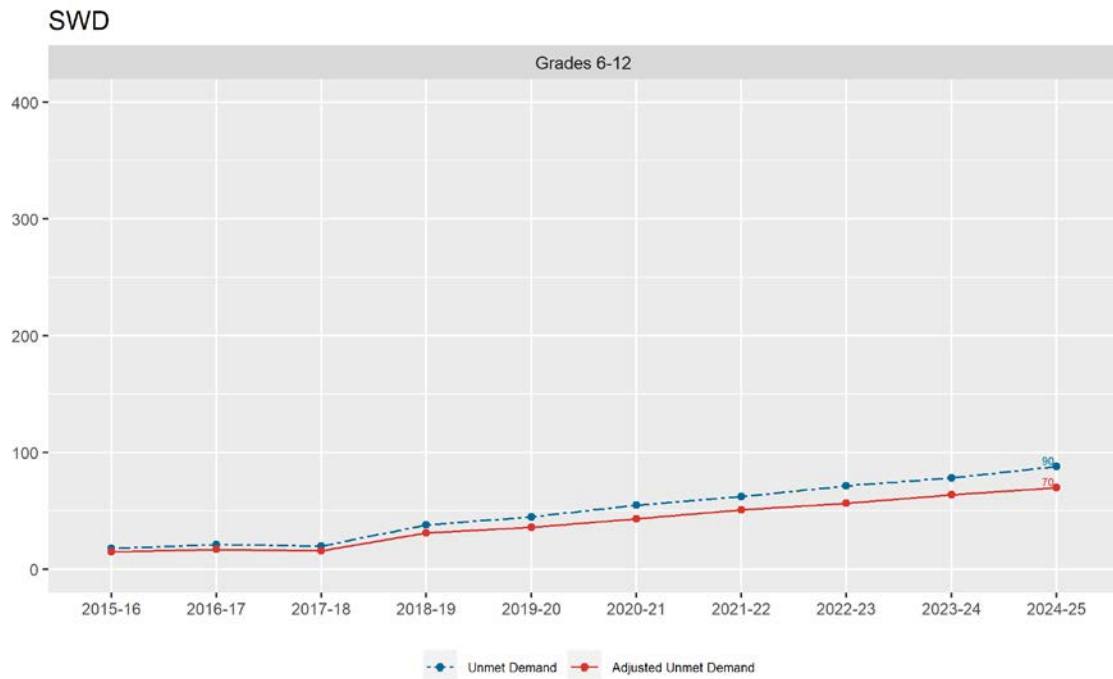
Projected Demand: Students who are At-Risk

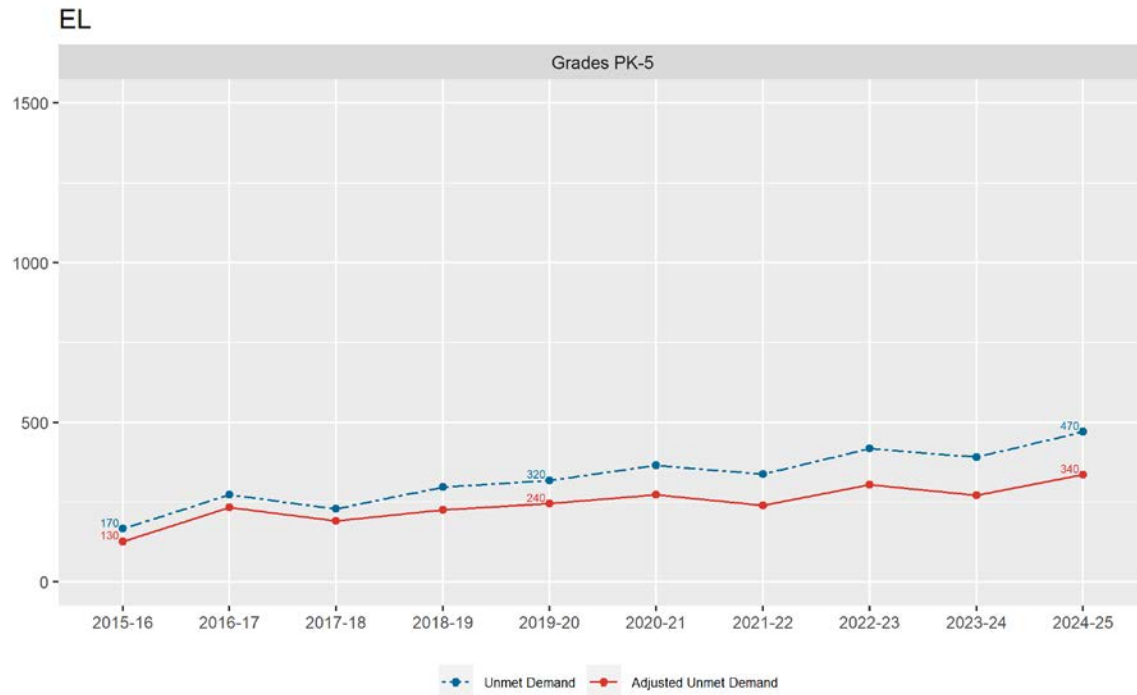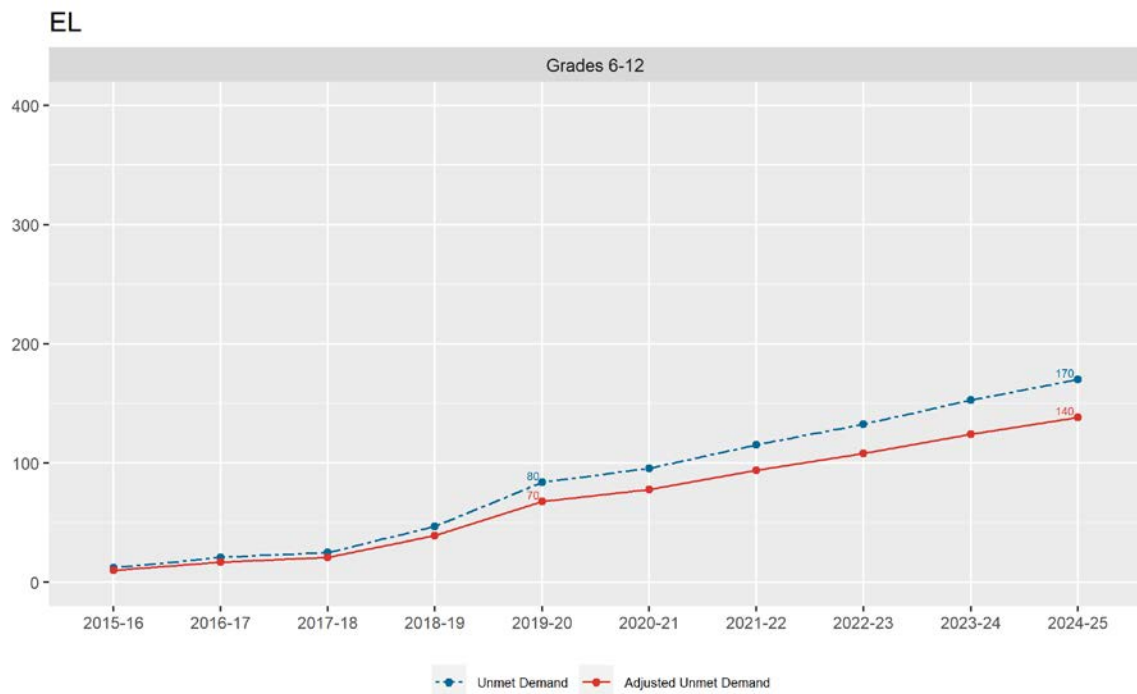Figure H13. Projected Unmet Demand for Students who are At-Risk (Grades PK to 5: 2020-21 through 2024-25)
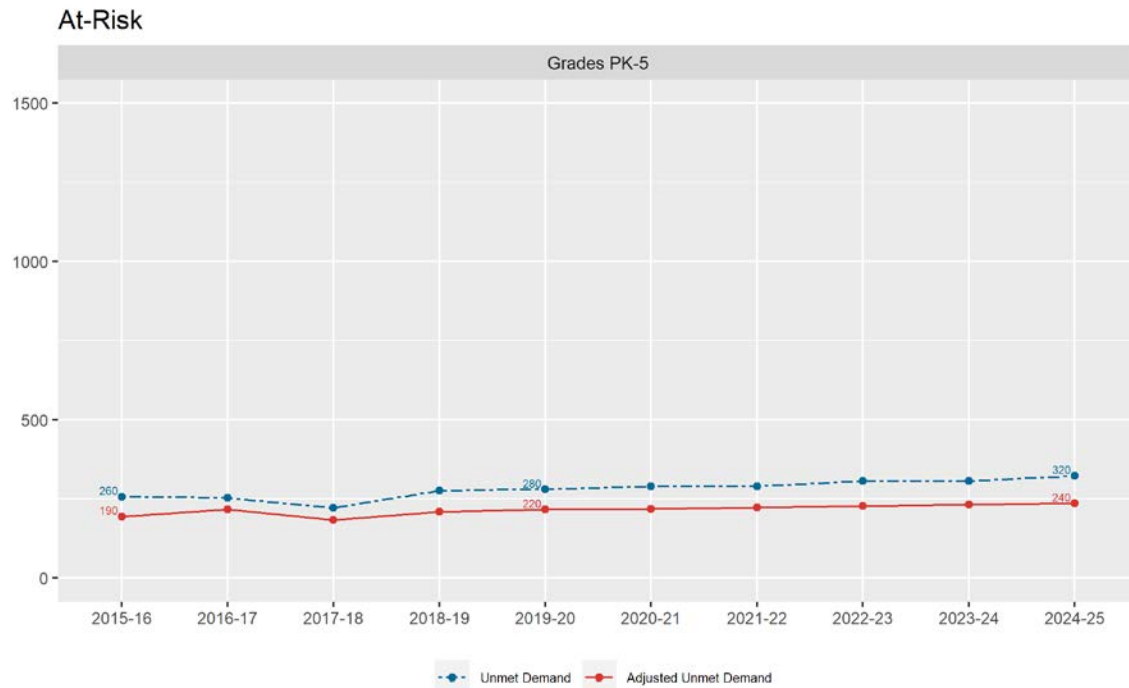
Figure H14. Projected Unmet Demand for Students who are At-Risk (Grades 6 to 12: 2020-21 through 2024-25)
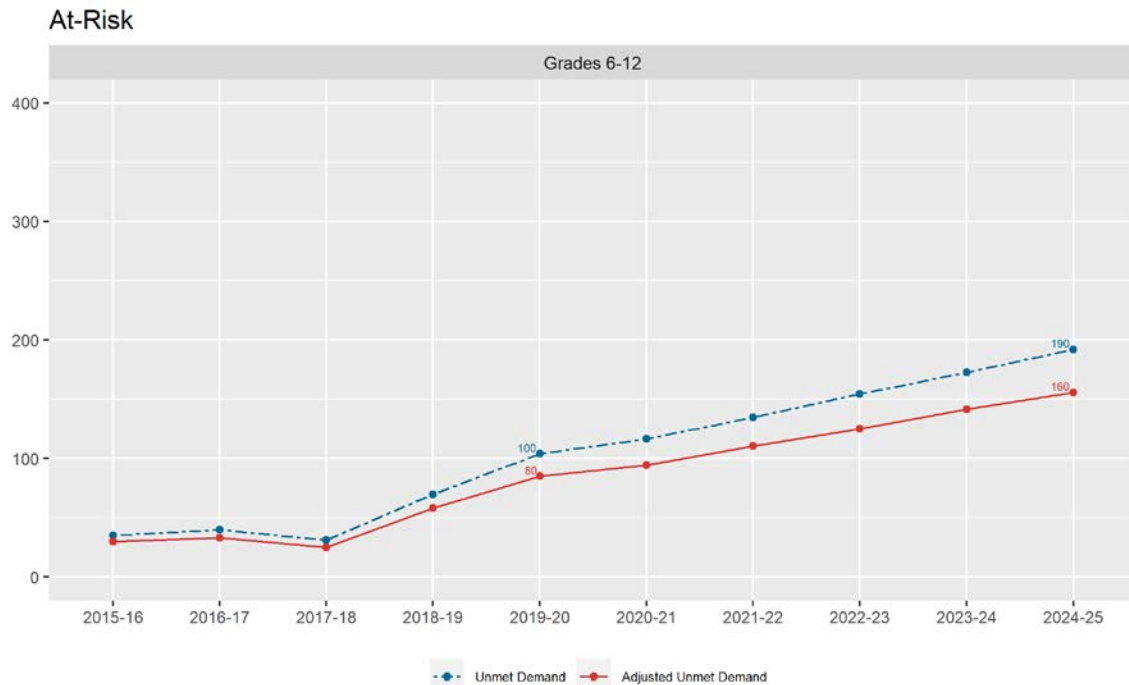
Projected Demand: Students who are not English learners, not students with disabilities, and not at-risk

Figure H15. Projected Demand for Students who are not English learners, not Students with Disabilities, and not At-Risk (Grades PK to 5: 2020-21 through 2024-25)
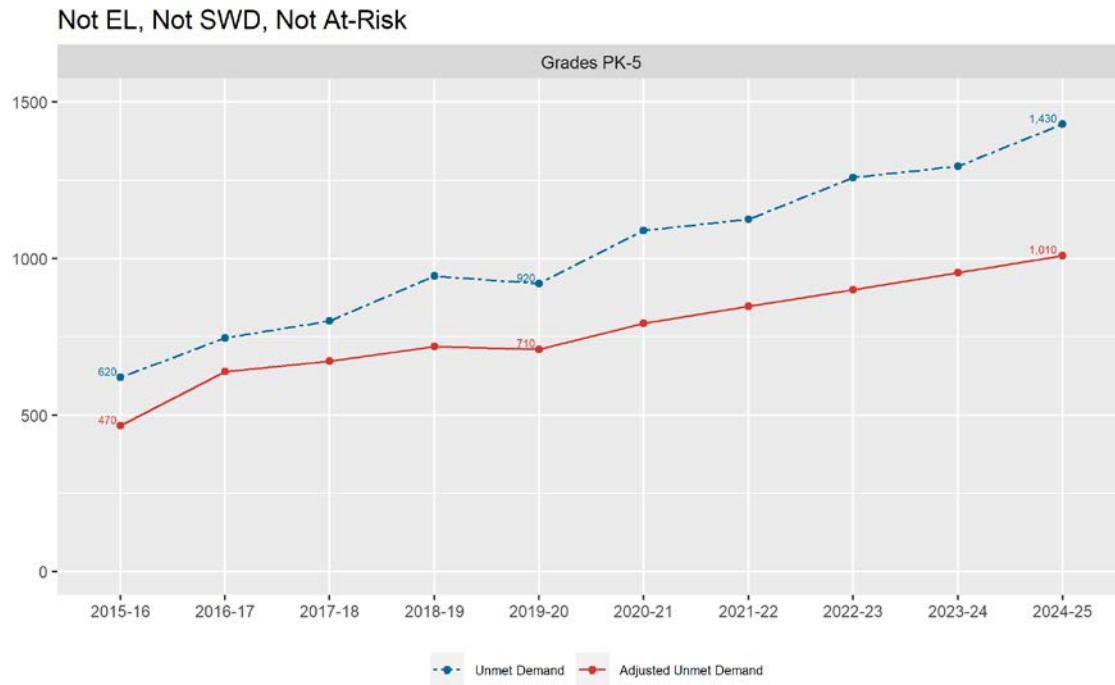
Figure H16. Projected Enrollment for Students who are not English learners, not Students with Disabilities, and not At-Risk (Grades 6 to 12: 2020-21 through 2024-25)
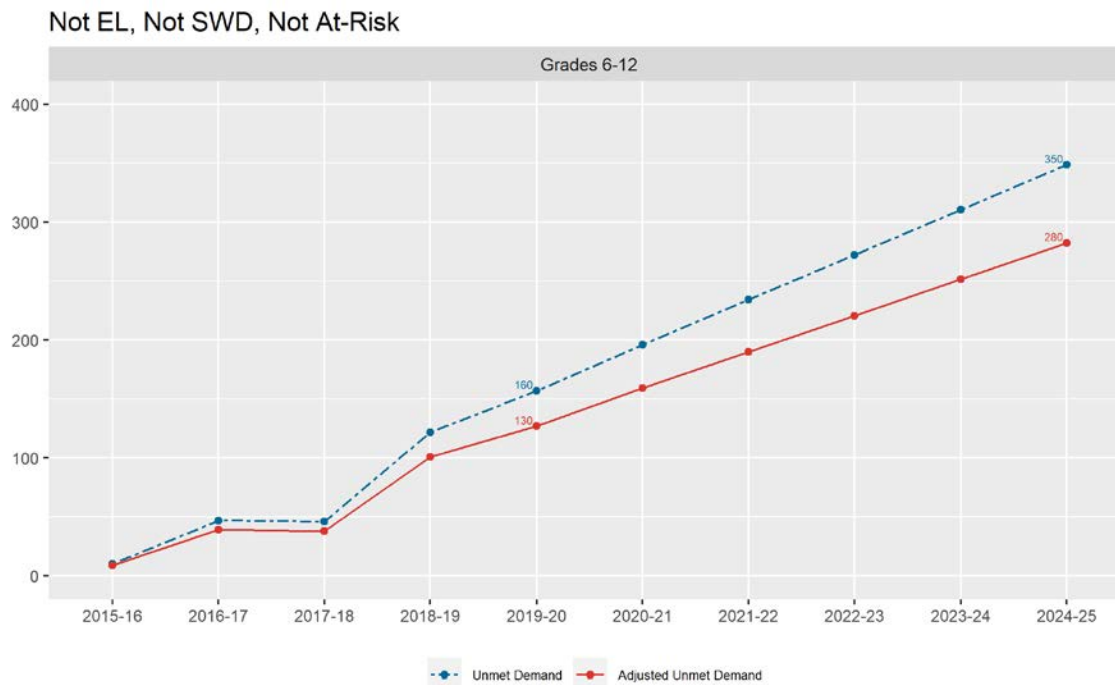
Supply of Seats to Address Inequitable Enrollment in DL Programs

The "proportions matched" scenario shows the number of new DL program seats that would need to be added if the proportion of students enrolled in DL programs were adjusted to match the proportions observed in the overall student population. Aside from observed inequities in DL program enrollment relative to the proportions of student groups enrolled in the overall student population, only approximately 20 percent of English learners in DC are enrolled in DL programming. Given the promise of two-way immersion programs in addressing the achievement gap, the "EL 50%" scenario explored the number of seats that would be required if approximately 50 percent of all DL seats were reserved for English learners.

Figure H17. Projected Supply of Seats Needed to Achieve Equitable Enrollment by 2024-25 (grades pre-K to 5; adding new seats scenario)
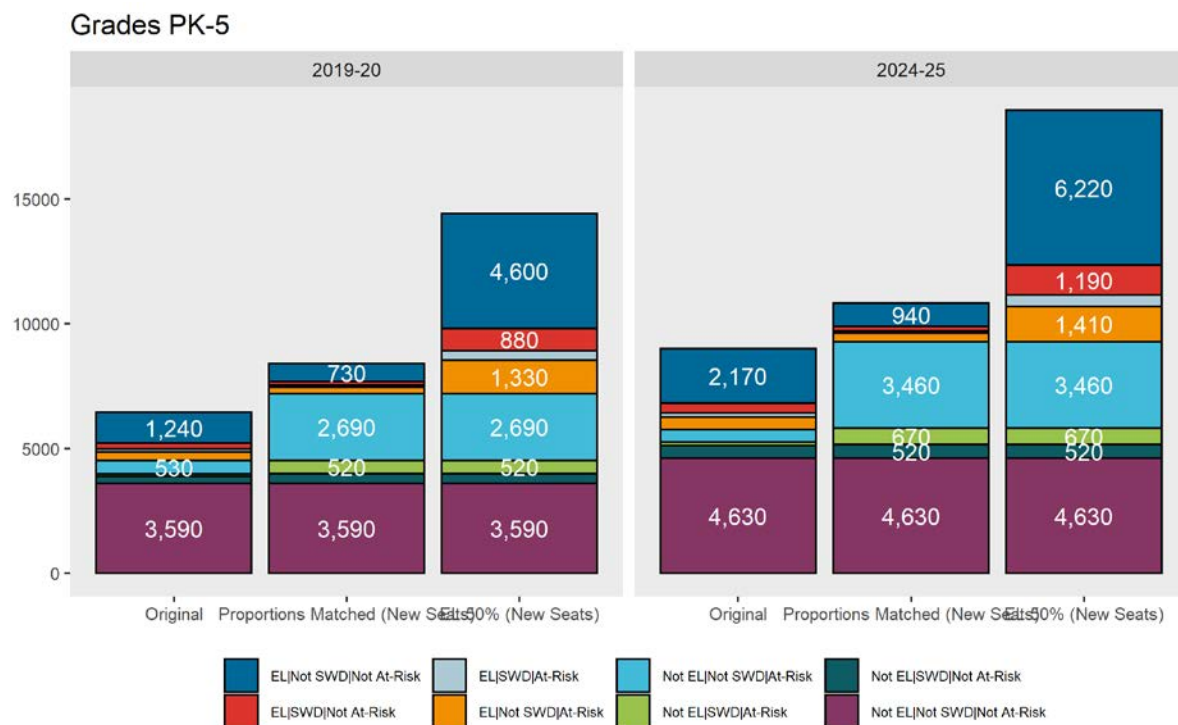
Table H1. Student Group Seats Needed to Achieve Equitable Enrollment in DL Programs (grades pre-K to 5; adding new seats scenario)

	Student Group	Original	Proportions Matched		EL 50%	
			Adj Seats	Change in Seats	Adj Seats	Change in Seats
Grades PK to 5	EL|Not SWD|Not At-Risk	2,170	940	-1230	6,220	+4,050
	EL|SWD|Not At-Risk	420	180	-240	1,190	+770
	EL|SWD|At-Risk	160	80	-80	460	+300
	EL|Not SWD|At-Risk	490	340	-150	1,410	+920
	Not EL|Not SWD|At-Risk	490	3,460	+2,970	3,460	-
	Not EL|SWD|At-Risk	150	670	+520	670	-
	Not EL|SWD|Not At-Risk	490	530	+40	530	-
	Not EL|Not SWD|Not At-Risk	4,630	4,630	-	4,630	-
	All Students	9,000	10,830	+1,830	18,560	+9,560

Figure H18. Projected Supply of Seats Needed to Achieve Equitable Enrollment by 2024-25 (grades 6 to 12; adding new seats scenario)
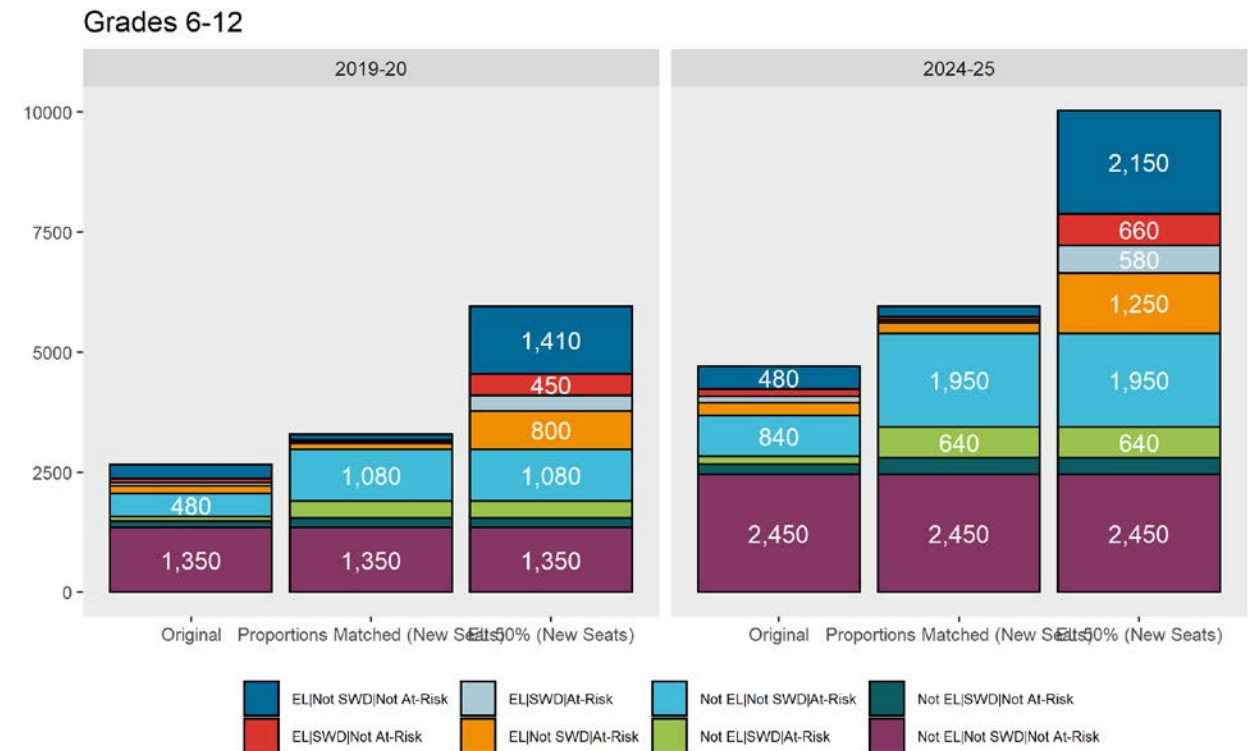
Table H2. Student Group Seats Needed to Achieve Equitable Enrollment in DL Programs (grades 6 to 12; adding new seats scenario)

	Student Group	Original	Proportions Matched		EL 50%	
			Adj Seats	Change in Seats	Adj Seats	Change in Seats
Grades 6 to 12	EL|Not SWD|Not At-Risk	480	220	-260	2,150	+1,680
	EL|SWD|Not At-Risk	150	70	-80	660	+510
	EL|SWD|At-Risk	130	50	-80	580	+450
	EL|Not SWD|At-Risk	280	220	-60	1,250	+970
	Not EL|Not SWD|At-Risk	840	1,950	+1110	1,950	1,110
	Not EL|SWD|At-Risk	160	640	+380	640	+380
	Not EL|SWD|Not At-Risk	220	350	+130	350	+130
	Not EL|Not SWD|Not At-Risk	2,450	2,450	-	2,450	-
	All Students	**4,700**	**5,950**	**+1,250**	**10,030**	**+1,030**

Supply of Seats Needed to Achieve Inequitable Enrollment in DL Programs

Based on the model to achieve equity, an additional 9,850 seats, mostly among English Learners and students who are at-risk would be needed to achieve equitable access to DL programs among students in grades pre-K to 5 by the 2024-25 school year. An additional 5,400 seats would be needed among students in grades 6 to 12. This would translate to the conversion of approximately twenty-five (25) elementary schools and approximately six (6) secondary schools to DL programming.

Appendix I: State and LEA Resources

California

Delaware

Illinois

Indiana

Maryland

Massachusetts

Michigan

New Mexico

New York

North Carolina

Ohio

Oregon

Texas

Utah

Virginia

Wisconsin

Appendix J: Federal Funding for Dual Language and World Language Programs

ESSA Title III Funds

As previously discussed, the most readily available funds to support DL programming are Title III funds. Title III funds are specifically designated to supplement language programs that serve English learners. Many states have in place funding formulas that capitalize on Title III funds to direct increased funding to English learners and the school districts that serve them. However, because two-way immersion programs aim to enroll an equal share of English learners and native English speakers, approximately half the students in these programs are ineligible for Title III funds. For one-way world language programs targeted at native English speakers, Title III funds are not a viable option for support.

Other ESSA Title Funds

Title I and Title II funds can also be used to promote a well-rounded education, so it is possible that school districts may be able to use some of these funds toward DL programming instead.[48] Title VI of ESSA offers a competitive $1.1 million grant specifically for Native American and Alaska Native Language Immersions Programs, however there does not appear to be other similar grants targeting support toward other historically underserved student groups; neither does there appear to be additional funding or support to expand DL programming to specific world languages that have historically been taught less frequently, or not at all, in schools.

DC Final Allocations Federal Fiscal Year 2019 School Year 2019-20		
Title I	Title II	Title III
$45,198,598.00	$9,363,226.00	$1,145,135.95

Student Support and Academic Enrichment (SSAE)

Under ESSA, the previous Foreign Language Assistance Program was consolidated into the SSAE state block grant. SSAE grants can fund a range of state educational initiatives including efforts to promote a well-rounded education, improve student health and school conditions, and increase the use of technology in schools. Under this program, school districts have the option to fund world language programming, but because funds are limited, the choice to direct these funds to world language programming may mean that school districts do so at the expense of other mental health or STEM initiatives.

National Security Language Initiative for Youth (NSLI-Y)

The NSLI-Y provides an opportunity for high school students to learn less commonly taught languages in through engagement in immersion programs outside the United States. Through merit-based scholarships, students can gain exposure to formal and informal language instruction that can serve to promote language proficiency and fluency in Arabic, Chinese (Mandarin), Hindi, Indonesian, Korean,

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[48] https://www.amacad.org/sites/default/files/publication/downloads/Commission-on-Language-Learning_Americas-Languages.pdf

Persian (Tajik), Russian, and Turkish. Although these funds would not directly support secondary DL programs, participation in international world language instruction could be used to supplement domestic DL programming in high schools, particularly in models that emphasis learning a third world language before graduation.

Higher Education Act (HEA)

The HEA, reauthorized in 2008, offers funding for both international education programs and world language studies, domestically and internationally. Domestic programs that world to strengthen the ability for postsecondary institutions to offer world language instruction and programming and are eligible to apply for grants to support world language education centers, programs, and student fellowships. Although these funds may not directly support elementary and secondary world language programs, they can be used by states to provide bridge programs between secondary and postsecondary language programs and to ensure continuity in world language instruction along the pre-K to 16 continuum.

Appendix K: Performance Measurement and Expectations

English Language Proficiency (ELP) Assessments
The two most used ELP assessments are ACCESS for ELLs 2.0, and the English Language Development Assessment (ELDA.

ACCESS for ELLS
The ACCESS for ELLs assessment suite was developed by WIDA, a consortium housed at the Wisconsin Center for Education Research (WCER) at the University of Wisconsin-Madison. According to WIDA, they offer a comprehensive, research-based system of language standards, assessments, professional learning, and educator assistance that is used by 41 domestic states and territories, including the District of Columbia, as well as more than 400 international schools around the world.[49]

ACCESS for ELLs offers both a screener and summative assessment. Screener assessments can be used to assess the English language proficiency of students entering a school system for the first time to make determinations about individual need for English language services. The summative assessment is administered annually to students in Kindergarten through Grade 12 who have been identified as English learners and is used to monitor progress in English language proficiency. Further, ACCESS for ELLs meets the federal requirements under ESSA for monitoring and reporting students' English language proficiency on state report cards.

English Language Development Assessment (ELDA)
The ELDA was developed by ELPA21, a member-supported consortium housed at the National Center for Research on Evaluation, Standards, and Student Testing (CRESST) at the University of California, Los Angeles. According to CRESST, their mission is to deliver high-quality research, assessment development, and measurement innovation that informs teaching and learning with membership across the country.[50]

ELPA21 offers both a screener and summative assessment. Screener assessments are available to students entering a school system for the first time and can be used to determine if the student needs English language services. For students identified as English learners, results can help determine the level of services needed by the student. Summative assessments are given on an annual basis to monitor progress in English language proficiency and help school systems determine when English language proficiency has been achieved. The ELPA21 can be used by states to meet the federal requirements under ESSA for monitoring and reporting students' English language proficiency.

Partner Language Proficiency Assessments
There are a variety of available assessment to measure both partner language proficiency among native English speakers and native language proficiency among English learners. The most common of these include the American Council on Teaching Foreign Languages (ACTFL), International Baccalaureate (IB), and Advanced Placement (AP) assessments.

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[49] https://wida.wisc.edu/about/mission-history
[50] https://elpa21.org/about-us/

American Council on Teaching of Foreign Languages (ACTFL)

The ACTFL offers a variety of assessments that can be used to assess students' language proficiency across speaking, listening, reading, and writing domains. The Assessment of Performance Toward Proficiency in Languages (AAPPL) is an assessment of standards-based language learning for students in Kindergarten through Grade 12. The AAPPL offers assessments in Arabic, Chinese, French, German, Hindi, Italian, Japanese, Korean, Portuguese, Russian, Spanish, and Thai.

The ACTFL Oral Proficiency Interview (OPI) and ACTFL Writing Proficiency Test (WPT) for the Seal of Biliteracy is an assessment that is used to measures students' speaking and writing ability in 21 less-commonly taught languages including Albanian, Amharic, Bengali/Bangla, Bosnian/Croatian, Bulgarian, Cantonese, Dari, Gujarati, Haitian Creole, Hebrew, Malayalam, Pashto, Polish, Swahili, Tamil, Tagalog, Turkish, Ukrainian, Urdu, Vietnamese and Yoruba.

The ACTFL Proficiency Guidelines provide standardized description of individuals' ability to use language for speaking, writing, listening, and reading in real-world -- spontaneous and non-rehearsed -- contexts. These guidelines describe speaking, writing, listening, and reading skills across a range of particular language proficiency levels (e.g., Novice, Intermediate, Advanced, Superior, Distinguished) and sub-levels (e.g., Novice Low, Novice Mid, Novice High).

Advanced Placement

Advanced Placement (AP) Language Tests are offered in Chinese (Mandarin), French, German, Italian, Japanese, Latin, and Spanish and are designed to measure students' listening and reading comprehension as well as writing and speaking language skills. According to the College Board, the AP Language Tests are aligned to ACTFL proficiency scale and students are eligible to earn the Global Seal of Biliteracy for earning a score of 3.0 or higher on the exam.

International Baccalaureate

International Baccalaureate (IB) Language Tests are offered in more than fifty languages, including Amharic, Arabic, Chinese, French, Spanish, and Vietnamese, and are designed to measure students' reading comprehension, writing, and speaking language skills. IB Language Tests are aligned to ACTFL proficiency scale and students are eligible to earn the Global Seal of Biliteracy for earning a score of 4.0 or higher on the exam.

Case Studies: State Use of Partner Language Proficiency Assessments

Utah – one of only five states requiring the administration of partner language proficiency assessments to students enrolled in dual language programs -- has established language proficiency targets for individual grade levels from Grade 1 through Grade 12 for the partner languages used in its dual language programs based dual language state standards on the National Standards for Foreign Language Learning and the ACTFL proficiency guidelines.[51] Although the ACTFL, AP, and IB assessments are most often used to determine student eligibility for the Seal of Biliteracy, states vary greatly in the assessment they use to measure student progress in world language proficiency.

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[51] Ibid; https://www.actfl.org/publications/guidelines-and-manuals/actfl-proficiency-guidelines-2012

Similar to federal requirements concerning ELP assessment administration, New Mexico requires its districts to measure development of partner language proficiency among all students enrolled in state-funded bilingual multicultural programs; assessments must be administered annually until students demonstrate proficiency in the partner language. New Mexico uses the following assessment of partner language proficiency: Woodcock-Muñoz Language Survey (Woodcock), Language Assessment Scales (LAS), the Individualized Proficiency Test (IPT) or the Standards-Based Measurement of Proficiency (STAMP) (BME Annual Report). Students from Native American communities, who participate in BMEPs, are assessed for proficiency through formative assessments developed by each tribe or Native American community leaders and educators.

Oregon – another state requiring the administration of partner language assessments to students enrolled in dual language programs – uses the STAMP assessment to measure world language knowledge and skill in reading, writing, listening, and speaking. The STAMP assessment is available in 13 languages (Portuguese, Hindi, Polish, Spanish, Russian, Korean, Arabic, French, Italian, German, Hebrew, Mandarin, Japanese). Additionally, all state-funded Spanish programs are required to administer the Logramos Spanish literacy assessment to students in Grades 3–5.[52]

Finally, Illinois uses Spanish Language Development Standards developed by WIDA to guide Spanish language instruction and assessment for students in dual language and other bilingual education programs. The WIDA Spanish framework emphasizes examples of Spanish academic language, and it references specific connections to state content standards, including the Common Core State Standards and Next Generation Science Standards.[53]

Case Studies: State Criteria for Awarding the Seal of Biliteracy

California, for example, requires native English speakers to: 1) complete all English-language arts (ELA) requirements for graduation with 2.0 overall grade point; 2) pass the California Assessment of Student Performance and Progress by grade 11; and 3) demonstrate proficiency in one or more languages other than English through one of the following: a) passing an AP exam with a 3 or higher, b) passing an IB exam with a 4 or higher, c) passing an SAT II foreign language exam with a score of 600 or higher, or d) passing a state-approved alternate assessment on the modalities that characterize communication in that language at the proficient level or higher[54].

In New Mexico, it is assumed that when a student meets the state's high school graduation requirements and receives a diploma, English proficiency has been demonstrated. New Mexico also allows for more than one seal to be granted, if language requirements for each are met[55]. New Mexico also provides four options to achieve the Seal of Bilingualism-Biliteracy, outlining specific requirements for tribal languages and an alternate process that can include a portfolio.

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[52] https://www.oregon.gov/ode/educator-resources/assessment/Pages/Statewide-Assessments.aspx
[53] Ibid.
[54] https://www.cde.ca.gov/sp/el/er/sealofbiliteracy.asp
[55] https://webnew.ped.state.nm.us/wp-content/uploads/2017/12/State-of-New-Mexico-Diploma-of-Excellence-Bilingualism-and-Biliteracy-Seal-Handbook-Final-8.15.16.pdf

In 2020, Delaware established the Delaware Certificate of Multiliteracy and is the state's version of the Seal of Biliteracy, using the ACTFL Proficiency Guidelines to measure world language proficiency[56]. For each skill, these proficiency guidelines identify five major levels of proficiency: Distinguished, Superior, Advanced, Intermediate, and Novice. Delaware offers two levels of certification: 1) Gold Level certification for intermediate-mid level of proficiency; and 2) Diamond Level certification for advanced-low level of proficiency.[57] Options to demonstrate world language proficiency in speaking, reading, and writing extend well beyond the commonly used AP and IB assessments. In addition to STAMP and ACTFL Assessment of Performance toward Proficiency in Languages, Delaware offers a variety of nationally recognized assessments to meet the criteria for the Certificate of Multiliteracy. Of particular note are options for Amharic, French, Chinese (Cantonese & Mandarin), Korean and Vietnamese[58].

Illinois recognizes the Bilingual Seal in higher education. At community colleges and four-year institutions in Illinois, students must earn college credits for having a verified State Seal of Biliteracy per state law[59]. The University of Illinois at Urbana-Champaign recognizes the State Seal of Biliteracy regardless of the state in which it was earned and offers students with a verified Seal of Biliteracy 8 hours of credit equivalent to the first two levels of foreign language regardless of the language other than English.

Case Studies: State Evaluations of the Fidelity of DL Program Implementation

Two DL program evaluation studies were reviewed. In Seattle Public Schools, researchers developed a *Dual Language Immersion Fidelity Checklist* which required teachers to self-report how they implemented DL programs.[60] Results were grouped into four areas: 1) Instruction; 2) Curriculum and materials; 3) Assessment; and 4) Professional Development. They found higher levels of fidelity with respect to instructional opportunities for students and the use of formative assessments, but lower levels of fidelity in curriculum alignment and articulation and access to high quality professional development. In Austin Public Schools, the Dual Language Training Institute observed classroom environments as well as type and quality of instruction. Results indicated that 93% campuses exhibited "emerging proficient" (i.e., minimum) levels of program fidelity with four campuses below expectations or lower.[61] Researchers concluded that instructional time intended for either language should occur entirely in that language and that teachers should avoid mixing languages or providing translations during instruction.

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[56] https://www.doe.k12.de.us/Page/3435

[57]
https://www.doe.k12.de.us/cms/lib/DE01922744/Centricity/Domain/139/DE%20Certificate%20of%20Multiliteracy%20Criteria%20Overview%20REV%20062719.pdf

[58]
https://www.doe.k12.de.us/cms/lib/DE01922744/Centricity/Domain/139/Nationally%20Recognized%20WL%20Assessments%20for%20DE%20Certificate%20of%20Multiliteracy%20011720.pdf

[59] https://www.isbe.net/sealofbiliteracy

[60] Beaver, J.K. Cruz, A. S, Willis, K. W. Bailey-Ramos, E. (2017). Program Review: International Schools/Dual Language Immersion. *Retrieved from:*
https://www.seattleschools.org/UserFiles/Servers/Server_543/File/District/Departments/International%20Education/DLI_TaskForce/InternationalSchoolsReport_Final_Corrected.pdf

[61] Brunner, J. (2012). Dual Language Program Fidelity. *Austin Independent School District. Retrieved from:*
https://www.austinisd.org/sites/default/files/dre-reports/rb/12.21_RB_Dual_Language_Program_2012-2013_Program_Fidelity_0.pdf

Appendix L: Current DC Policies and Initiatives Related to Dual Language Programming

DC Educational Strategic and Programmatic Priorities

Deputy Major for Education

The Deputy Mayor for Education (DME) is responsible for developing and implementing the Mayor's vision for academic excellence and creating a high-quality education continuum from birth to 24 (from early childhood to K-12 post-secondary and the workforce). The DME provides oversight for a District-wide education strategy, working in collaboration with the Office of the State Superintendent of Education (OSSE), District of Columbia Public Schools (DCPS), and the Public Charter School Board (PCSB). DME also provides oversight and support for the DC Public Library, Department of Parks and Recreation, the University of the District of Columbia, the Department of Employment Services, and the Workforce Investment Council.

EdScape

In the 2018-19 school year, the DME launched EdScape, a "set of interactive visualizations and downloadable datasets to inform and support program and school planning in Washington, DC.[62] In addition to providing detailed information on facilities, school quality and student demand, EdScape provides several resources that can inform the analysis of DL programming in DC. First, EdScape includes a map of current DL programs with detail on program location as well as number of DCPS and Public Charter Schools in each of the school years from 2014-15 through 2018-19. EdScape also includes information on enrollment patterns in DC, with detail on changes in enrollment patterns over time according to student characteristics. Finally, EdScape also includes visualizations showing where school-aged children are concentrated within DC, with detail for specific student characteristics including English learner and at-risk status. These data from the Office of Planning can be used to create informed projections concerning the demand for seats in DC schools over the next several years.

2020 Charter Application Needs Analysis

In 2020, the DME conducted an analysis of the need for new schools with a focus on the operators who submitted application to become new public charter school in the 2021-22 school year. Of the four operators who submitted application, two proposed opening DL programs. The DME analysis focused on three areas of inquiry: 1) overall facility capacity; 2) the quality of schools with vacant seats; and 3) family demand. The first operator proposed opening a DL elementary school in Ward 6 and the second operator proposed opening a DL elementary school in either Ward 7 or Ward 8.

The analysis conducted by the DME offers a relevant framework to examine the supply and demand for DL programs. With respect to the analysis of facility capacity, the DME found that there are school vacancies across grades, and that there will continue to be a surplus of seats across Wards 6, 7, and 8 accounting for enrollment ceilings allowable under current charter agreements. In examining the quality of schools with vacant seats, the DME found that 45 percent of existing unfilled seats in the 2018-19 school year were schools with a 3-, 4-, or 5-star rating on the DC School Report Card, and that about 1,400 of these seats were available in Wards 6, 7 and 8.

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[62] https://dme.dc.gov/page/education-data-resources

Analysis of family demand noted that there are only three DL programs located in Wards 6, 7 and 8 with one DL program in Ward 6 and two programs in Ward 7. The DME noted that additional DL programs in Ward 6, 7, and 8 had the potential to reduce travel distance to school for families enrolled in DL programs with travel distance to current DL programs nearly three times further for students and families living in Ward 7 and 8. The DME analysis also noted that although some community advocates and parents have indicated high demand for DL programs by parents and students, only about half of families offered a lottery match or placement accept their offer.

Office of the State Superintendent of Education (OSSE)

Policies and Initiatives Concerning Dual Language Programming

Office of Multilingual Education

In the Fiscal Year 2019 Local Budget Act of 2018, the DC Council appropriated funds for the establishment of an Office of Multilingual Education within the Office of the State Superintendent of Education (OSSE) whose aim would be to support cross-sector public school program development for multi-lingual schools and classrooms. The Office of Multilingual Education is responsible for providing guidance around maintaining language instruction programs in DC. Specifically, the office is responsible for providing guidance concerning the delivery of educational services to English learners in DC, leading the Title III advisory committee, as well as designing and developing professional development for DL teachers and teachers of ELs.

Title III Advisory Committee

The Office of the State Superintendent of Education (OSSE) convenes a State ESEA Title III Advisory Committee each year. Title III requires that each state education agency, in developing its Title III state plan, consult with local educational agencies (LEAs), teachers, administrators of Title III programs, parents of English learners, and other relevant stakeholders. In addition to providing consultation on the state plan, the State Title III Advisory Committee serves as an advisory body to support OSSE in carrying out its responsibilities under Title III of the ESEA for the District of Columbia.

OSSE Strategic Plan[63]

OSSE's 2019-23 Strategic Plan set forth a bold vision to close the achievement gap and ensure people of all ages and backgrounds are prepared to succeed in school and life. One of OSSE's strategic pillars is to share and use actionable data. This roadmap examines student- and school-level data across five school years – from 2015-16 to 2018-19 – to examine and provide insight into several topics central to understanding the DL landscape in DC. Specifically, this roadmap provides essential foundational knowledge concerning supply, demand, and enrollment patterns in DL programs, with a focus on equity in access. Sharing these data with the public will help to provide foundational knowledge of DL programming in DC that can be used by OSSE and its stakeholders to make informed decisions about potential future implementation and expansion initiatives.

Given the promise of DL programs in closing the achievement gap in other states and jurisdictions[64], examining the relationship between enrollment in DL programming and student performance and growth

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[63] https://osse.dc.gov/strategicplan

[64] Steele, J. L., Slater, R., Li, J., Zamarro, G., & Miller, T. (2013). The Effect of Dual-Language Immersion on Student Achievement in Math, Science, and English Language Arts. *Society for Research on Educational Effectiveness*.

in DC is important to understanding different mechanisms by which OSSE may further its specific strategic goal of supporting elementary and secondary schools in ensuring that 6,700 more students meet or exceed expectations on state assessments while closing achievement gaps by 2023.

DC School Report Card

The DC School Report Card provides detailed information on the performance of English learners across all domains including achievement and growth on statewide assessments and progress toward English language proficiency on the ACCESS assessment.

District of Columbia Public Schools (DCPS)

The section that follows is based on document review and interviews with DCPS central office staff.

Policies and Initiatives Concerning Dual Language Programming

DCPS Strategic Plan

The DCPS 2017-2022 Strategic Plan: A Capital Commitment[65] includes a specific focus on DL programs at DCPS with the explicit goal of putting in place centralized supports and policies for DCPS DL programs. Specifically, DCPS aims to improve the quality and consistency of current programming to ensure that students have a shared experience across DL programs. To this end, DCPS is working to develop an overarching framework that will align elementary schools to one to two program delivery models to provide schools with foundational programmatic and curricular offerings that can be used to grow their programs. Specifically, DCPS is putting into place specific policies concerning DL program types (whole school versus strand program) and language allocation where a minimum of 50% of instructional time in partner language at each grade level, and literacy in partner language taught at each grade level to ensure that all schools meet industry-established criteria for being identified as a DL program.

DCPS uses the definition for secondary DL programs developed by the Center for Applied Linguistics, which requires that at least two content courses be provided in the partner language for a program to be considered DL. DCPS does not consider their current IB programs DL because there is not enough content work offered in the partner language. The following middle and high school programs at DCPS meet these criteria: MacFarland Middle School, Oyster Adam Bilingual, Lincoln Multicultural Middle School and Bell Multicultural High School (located at Columbia Heights Educational Campus), and Roosevelt High School.

DCPS is also working to develop guidance around curriculum and instruction in elementary school, with the intention to expand the focus of this work into middle schools and high schools in the future. Specifically, DCPS is focused on developing Bilingual Humanities Curriculum that will be aligned to Common Core and DC Social Studies Standards. DCPS already has strong math and science curriculum in Spanish through Eureka math and STEM scopes. Decisions concerning addition of new partner languages other than Spanish will deferred until progress on model alignment and Bilingual Humanities Curriculum development to provide centralized support of Spanish Language Arts as a key tenet of DL programming has been made and exploration of future expansion is underway.

As part of its strategic efforts, DCPS is also focused on ensuring quality and consistency in programming for vulnerable student populations. For example, Early Stages – the program responsible for evaluation and placement of students with disabilities aged 0 to 5 -- and Division of Specialized Instruction – the

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[65] https://dcps.dc.gov/sites/default/files/dc/sites/dcps/publication/attachments/DCPS%20Strategic%20Plan%20-%20A%20Capital%20Commitment%202017-2022-English_0.pdf

program responsible for the evaluation and placement of students with disabilities aged 6 to 21 -- are collaborating to determine what supports are needed by DL programs to best support students with disabilities. In particular, DCPS is focusing efforts on ensuring that students with disabilities who are dually-identified as English learners are accessing the resources needed to be successful in school.

Seal of Biliteracy

DCPS offers a Seal of Biliteracy to students who are able to pass the Advanced Placement (AP) exam in their partner language or score 5 or above on all domains of the STAMP assessment in the target language. Many students meet criteria for Seal of biliteracy by the end of 8th grade and without enrolling in a DL program in high school. DCPS has observed that the majority of students receiving the Seal of Biliteracy are concentrated in the NW quadrant of DC but has seen increasing examples of a broader range of students receiving the Seal of Biliteracy in recent years

Dual Language Program Funding

Many current DL programs are funded using Title III funding which have allowed for hiring of additional teachers needed for co-teaching. However, the current funding formula does not account for the additional costs of administering DL programs in many cases and schools are currently required to find other means to support DL programming. Schools have identified the following specific areas where additional financial support is needed to ensure the continued success of DL programming in DCPS:

1. Visas need to be issued to hire international teachers, however there is not a clear policy currently on who is responsible for paying for the visa

2. Curricular and classroom materials in the partner language are needed; schools often have material required for Science and Math, but need more resources particularly for Social Studies and Spanish Language Arts instruction

3. Schools lack the ability to hire Spanish literacy/language Interventionists; schools want to provide small group support the same way that is done for English learners for students learning Spanish as a second language

4. Schools lack the ability to hire Program Coordinators; coordinators are necessary to provide consistent expert support to programs and to serve as coaches to teachers

Dual Language Program Staffing

DCPS has been able to hire some teachers that can support DL programs, but staffing continues to be a major concern. DCPS is exploring additional options for growing a more local teacher workforce that can support DL programming. For example, CHEC has a new CTE program: The Bilingual Careers Academy where students can gain expertise in the following:

1. Translation and interpretation

2. Bilingual education

DCPS believes that this "grow your own" model – seen in many jurisdictions across the United States -- is advantageous for many reasons. For example, local growth is more sustainable; DL teachers on Visa are time-bound. Additionally, local growth provides opportunities for students to see themselves and members of their communities as teachers.

Public Charter School Board (PCSB)

Policies and Initiatives Concerning Dual Language Programming

While DC PCSB does not intentionally cultivate DL programming, they encourage schools to respond to what quantitative and qualitative measures may indicate about demand for DL programming in their specific community or within the DC community overall.

DC PCSB defers to LEAs to take the lead on establishing their own goals around school replication, school expansion, and expansion of specific program models, of which DL programming is one. With respect to new operators, DC PCSB does not recruit or solicit specific operators or schools that may provide what are perceived to be 'in-demand' services. Instead, DC PCSB encourages schools to come to DC organically and demonstrate how believe they meet the needs of the DC population.

Research and Analysis Informing Dual Language Programming

DC PCSB conducts analysis to inform various school enrollment forecasting, planning needs, and eligibility for school expansion and/or replication. For example, DC PCSB works with each LEA to develop enrollment projections for each LEA on an annual basis to inform decision-making. Enrollment ceilings that are authorized for each LEA are used to inform enrollment forecast across a ten-year timeframe. In addition, DC PCSB provides schools with an indication of whether they meet established criteria for expansion and/or replication on an annual basis[66] and recently conducted a Need and Growth Analysis.[67] DC PCSB also shares lottery and waitlist data on their website for all public charter schools, including DL programs, to ensure that stakeholders are informed about the number of seats available to students.

DC PCSB also recently collected data directly from LEAs with respect to their growth plans over the next five years; these data were used to inform master facilities planning through the DME. While DC PCSB does not specifically request that schools replicate or expand, data from DC PCSB's accountability framework, the DME and the Office of Planning along with LEAs specific growth plans, could be used to help to identify current DL programs that may be eligible for expansion or replication in future years.

DC PCSB generally ascribes to the philosophy that decisions about opening and expansion are best left to school communities, including school staff, students, and families. DC PCSB has observed that when those decisions are made inorganically (e.g., at the request of DC PCSB or another city agency) school communities have, at times, been underprepared for the significant challenges of school opening and expansion.

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[66] Criteria can be found here: https://dcpcsb.org/enrollment-ceiling-increase-policy
Business rules for criteria can be found here: https://dcpcsb.egnyte.com/dl/ZYcsPbJFCp/
[67] Need and Growth Analysis can be found here: https://dcpcsb.egnyte.com/dl/QrhocyGWSk/