

REVIEW OF DUAL LANGUAGE PROGRAMMING IN PRINCETON PUBLIC SCHOOLS

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REVIEW OF DUAL LANGUAGE PROGRAMMING IN PRINCETON PUBLIC SCHOOLS

SECTION 1: introduction and Overview

In December of 2021, a contract was signed at the request of the Princeton Board of Education between Princeton Public Schools (PPS) and the Center for Applied Linguistics (CAL) for the review of the district's elementary and middle school Spanish-English dual language immersion (DLI) programs.

The DLI program in PPS is in its seventh year of existence. In 2015, the DLI program opened as a strand (school within a school) program at Community Park Elementary School (CP) for students in Kindergarten and first grades and has developed progressively to where it is today with every classroom in Kinder through third grade a DLI classroom. Fourth grade has one classroom out of three that is not dual, and fifth grade has two non-DLI classrooms. All non-dual classrooms will be phased out after the next school year so that, in SY 2023-2024, all classrooms at all grade levels will be dual language classrooms, and the program will formally represent a whole-school model. The non-DLI 4th and 5th grade students attend a Spanish as a world language class. The students who began the program upon inception in Kinder and first grade are now in sixth and seventh grades, respectively, at the recently formed DLI program at Princeton Middle School (PMS).

Students in the DLI program at CP receive approximately 50% of core-content instruction in English and 50% in Spanish. Specials are in English. At all grade levels, English language arts (ELA) and social studies are taught in English, and math and science are taught in Spanish. Although there has been no Spanish language arts (SLA) curriculum in place, Spanish language is taught in smaller increments (half-hour daily). Art, physical education and music are taught in English. At the middle school, DLI students study two core content areas in Spanish: social studies and Spanish as a world language.

The primary research question was requested by PPS staff upon initiating the contract with CAL, and is stated in the CAL contract, as follows:

- Are the DLI programs in existence now meeting the goals established at the program's inception seven years ago?

And the sub-questions are as follows:

- How does the demographic profile of students in the DLI programs compare with other elementary and middle schools?
- What is the demographic profile of students served currently in the dual language program?

- How does the academic performance of students in the DLI program compare with students of similar backgrounds in non-dual language programs?
- What is the level of acquisition of Spanish on the part of students in the DLI program?
- What are the reasons that eligible in-boundary and out-of-boundary families decide to opt in to the DLI program?
- What are the reasons that eligible in-boundary and out-of-boundary families decide to opt out of the DLI program?
- What do staff, parents, and students believe are the best aspects of the DLI programs today?
- How do staff, parents and students believe the DLI programs can be improved?
- Is the per-student cost for educating students at the elementary DLI program equivalent to that which is spent at non-DLI elementary schools that do not have specialized programming?
- What additional costs can be attributed to transportation costs given that the DLI program at CP is a choice for parents districtwide?

The purpose of this report is to provide answers to these questions that will serve to provide the PPS community with an objective description of the dual language programming as it exists today. The observations and discussions in this report rely on research and expert opinion found in the *Guiding Principles for Dual Language Education, 3rd Edition* (Howard et al., 2018). Appendix C. includes key research from this publication regarding effective dual language programming leading to the three goals of dual language education: bilingualism and biliteracy, high academic achievement in both languages, and sociocultural competence.

SECTION 2: Methodology

The CAL study was mainly qualitative in design but also included quantitative data related to extant and available academic and language performance outcomes provided by the district or found on the New Jersey State Education Agency (SEA) website.

On February 16, 23, and 24, 2022, the CAL researcher conducted interviews and focus groups remotely in Zoom meetings with central office staff from CP, PMS, Johnson Park Elementary School (JP), and Littlebrook Elementary (LB). JP, LB and PMS were asked to assemble “leadership teams” that could best address observations regarding enrollment at the CP dual language program and implications for their schools from their perspectives. JP’s leadership team consisted of the principal, a school counselor, a special education teacher and a 4th grade teacher. The LP team included the school principal and the Spanish world language teacher. At PMS, the principal and 3 guidance counselors made up the leadership team, and 3 DLI teachers were interviewed in a separate group. PPS representatives of the program at CP included the world language specialist, the principal, a front office staff person, 4 teachers representing DLI grades K-3, 4 teachers representing DLI grades 4-5, and 3 non-DLI teachers (grades 4/5). The principal, world languages specialist, and Bob Ginsburg participated in an earlier, less formal

meeting with the CAL researcher following the signing of the contract for the purpose of collecting background information about the DLI program to plan for the evaluation activities.

Additional interviews were conducted with staff during the on-site visit. A total of 56 PPS staff participated in the remote or in-person interviews or focus groups (Table 1). A protocol was developed in advance to reflect the research questions. From April 4 through April 7, 2022, eight focus groups were conducted at the PPS central office site in which 44 parents participated (Table 2). To ensure confidentiality, individuals are not named in this report.

During the site visit in April, the CAL researcher also visited the DLI programs, taking an informal look at the school and classroom environments and instruction. During the school visits, focus groups were conducted with students. The CAL researcher spoke with nine students at CP across multiple grades levels and included the perspective of two students not in the DLI program. At PMS, CAL spoke with eleven students in the 6th and 7th grade DLI program, three of whom spoke Spanish at home.

Table 1. Description of PPS staff and student interviews and focus groups

Participant Roles	Number of Participants
District-level administrators (representing special education, registration, assessment, world languages, mathematics, humanities, transportation, bilingual parent liaison, and finance)	9
School-level administrators (CP and PMS)	2
Elem-level principals and staff representing non DLI schools (LB and JP)	7
CP teachers DLI Grades K-5 (5 Spanish and 3 English)	8
CP teachers Traditional Grades 4-5	3
PMS counselors	3
PMS teachers Grades 6 and 7	3
CP students	9
PMS students	11
CP Front office staff person	1
Total staff and students interviewed in focus groups	56

As indicated in Table 2, 44 parents representing a cross-section of students in PPS participated in the focus groups. More mothers (37) than fathers (9) were present and one parent self-identified as “parent” without gender attribution. One mother participated by email but does not appear on the chart because information about the characteristics of her children was not provided. Parents often had more than one child attending PPS. In all, the parents represented 51 children in the

DLI program at CP, 37 of whom were in grades K-3 and 12 of whom were in grades 4 and 5. Eighteen students in grades 6 and 7 in the DLI program at PMS were also represented by their parents. This provided a wide range of observations: from parents who were new to the program to parents who were involved during the very first year of the program. The majority, self-reported language spoken in the home was by far English, with 30 parents reporting that only English was spoken in the home; nine parents reported English and Spanish spoken in their homes and two of these families reported that only Spanish was spoken at home. Other languages spoken at home included French, Chinese, and Hebrew.

Family Affiliation			Number of Children in PPS by School				Number of Children in Dual Language Program by Grade Clusters			Language(s) Spoken in Your Home		
Mother	Father	Parent	CP- DLI	PMS - DLI	JP	Other:	K-3	4-5	6-7	English	English and Spanish	Other
34	9	1	51	18	1	PHS (2)	37	12	17	30	9	English and French (1)
						YWCA PreK (2)	/					Chinese, Hebrew and English (1)
						CP non DLI (2)						French (1)
						Stuart (1)						Spanish (2)
						PMS non DLI (2)						

Information from the focus groups and extant data were analyzed and a preliminary, draft report was provided to PPS staff to review for clarity and accuracy. Written comments were received from the CP principal and the world languages specialist. Their comments were integrated into the final report wherever their comments added to the clarity and accuracy of the report.

As stated above, the overarching question that PPS asked to be addressed in this study was whether the program in its current form is meeting the goals established at inception. This meant investigating what the program goals were at the start of the program and comparing those goals with what was learned about the current program.

The CAL researcher was provided with one document by a central-office administrator that was intended to answer the question about original program goals. The document can be found in Appendix A. and is entitled, “Why Consider Dual Language Immersion?” The goals are described as the following research-informed benefits:

- Enhanced Cognitive Skills
- Improved Academic Performance
- Minimizing of the Achievement Gap
- Higher Second Language Proficiency
- Enhanced Global Citizenship

Interestingly, only four of the five earlier program goals appear today on the CP website’s description of the program. The one benefit that is missing from the current list is, “Minimizing the Achievement Gap.” The current web page, which also includes enrollment information, can be found here: <https://www.princetonk12.org/community-park-elementary/academics/dual-language-immersion>

The CAL researcher received different information and opinions from respondents about the value of one of the five goals: the goal/benefit of “minimizing the achievement gap.” This goal was given increased attention in the study because the original conversations between CAL and PPS prior to contracting included discussions about whether the program was providing equity and inclusion as it relates to the PPS population overall, and whether the program was “value-added” from a district perspective. A goal of “minimizing the achievement gap” speaks to ensuring value-added, equity and inclusion for the PPS community as a whole.

There was conflicting information about whether addressing the achievement gap was an original goal. Although many parents, especially those whose children enrolled only recently, understandably said they didn’t know, numerous staff and families who had been involved with the program when it began spoke to an original aspiration that the program serve to “help close the achievement gap” between more fortunate and less fortunate families. In fact, the choice of words, “help close the gap” was not CAL’s but was offered by respondents. When a PPS central office administrator was asked about the goal of “closing the achievement gap,” the specialist responded that this was never a primary goal of the program and, if anything, the wording was “to minimize the gap.” At that point in time, CAL was provided with a description of the initial program goals (in Appendix A). This information contradicted several accounts from current teachers and parents who believed that equity had been a goal at the start and who voiced disappointment that the program has, in one respondent’s words, “not turned out that way.”

Families in focus groups who had children at the start of the program (17 parents) were able to comment on the starting year of the DLI program and how it may have changed over time. Several parents, as did staff, provided historical background. They reported that about two

decades ago, the CP school zone was changed to desegregate the school by dividing the low-income neighborhood zone, in which most low-income, Spanish-speaking families lived, into two zones: one going to CP and one going to JP. The DLI program that began in 2015 was open only to in-boundary families. This meant that only some of the Spanish-speaking families in the close-by neighborhood were eligible to attend the DLI program at CP.

“About two years” into the program, the enrollment policy changed. Enrollment became open to any family enrolling their children in PPS. Since inception, students could enter the program by January of first grade, and the program accepted new-to-the-district students in later grades who had previously been enrolled in DLI schools. At one point, and for a limited time, there was a lottery for placement in the dual program because space was limited (at that time, two out of three grade-level classrooms were DLI, and one was non-DLI). This practice ended because more spaces were available when the program began moving progressively to a whole school model, in which every classroom at every grade would eventually become bilingual. As mentioned earlier, only 4th and 5th grades have non-DLI classrooms in the current school year.

Some staff spoke to the belief that the program was conceived with the notion that Spanish speaking families would be able to enter CP regardless of boundary. Teachers at CP also mentioned other program expectations that changed over time. Some spoke of an earlier plan to have content areas flip in 3rd grade, meaning that, where in the earlier grades ELA and social studies were taught in English and math and science in Spanish, third grade would see the reverse: social studies and language arts in Spanish and math and science in English. Another change that CP teachers felt important enough to mention was the CP DLI Parent Compact, a document that parents were and are asked to sign upon enrolling their child in the DLI program. The teachers believed that parents were held to the contract in the early years but no longer were. They reported that parents could take students out on vacations or pull out to private schools and return to CP to a degree that was not allowed when the compact was better monitored in the earlier years, and that this inconsistency in attendance made teaching and learning more difficult. According to the world language content specialist, “as the years went on and the support for the program dwindled, we weren’t able to enforce the compact as well and lacked support from central administration.”

DLI program enrollment is such that students are able to enter the program after January of first grade if they have proficiency in Spanish that will enable them to learn subject matter in Spanish at the higher grade levels. At the same time, the PPS policy is that any student who is in-boundary for CP can choose to go to another PPS elementary school in the district, based on availability of space and district determination, if they do not want their children in the DLI Program. The district provides transportation (this is discussed in Section 10).

Another evolving aspect of the DLI program at CP has been the transition to a whole-school DLI program while registration has transitioned from school to central registration, which is reportedly, conducted online. The Spanish-speaking parent liaison is available at central office to

serve families who are not English speaking. The school schedules information sessions for perspective parents (and two sessions had been completed prior to the CAL visit). There was disagreement as to whether these sessions were well advertised to parents both in and out of the CP zone. It was difficult to determine if Spanish-speaking parents, in particular, were made aware of the online information sessions that, based on the CP DLI website page, are a requirement for enrollment. The world languages specialist maintained, “every parent must attend a Parent Information session to learn more about the program before they commit to it [and there is] attention and support provided to parents; if they cannot attend an information session, they will receive a 1:1 phone call.”

There is a distinct perception on the part of many parents and staff that the DLI program at CP is not well-known across the district and that there should be an “active marketing campaign” on the part of the district to raise awareness of the program and its benefits.

DISCUSSION AND RECOMMENDATIONS

Whether the original intent of the program was to help lower the achievement gap or not, the PPS community needs to take a stand now. If the decision is to use the program to strategically help underperforming students succeed, the DLI school needs to enroll both traditionally high-performing and low-performing students. Traditionally low performing students in Spanish-English DLI programs are often low-income, Hispanic students who benefit immensely by being able to learn in their first language as they learn English. If this was truly a goal of the program when it began, then the district and school would have included a recruitment focus to ensure that the benefits derived from a DLI education would reach Spanish-speaking, low-income families, and the school would have a more diverse population now. (A review of the current population of students in the DLI school appears in the next section.)

Numerous parents called for greater outreach districtwide regarding the advantages of the DLI program at CP for students. The CP principal and other members of the CP staff also called for greater support from the district. Suggestions included: greater presence on the district website, a promotional video created by a PR firm, and more outreach and advertisement from the district communications staff. All parties believed that the school itself cannot be solely responsible for outreach.

Should promotional efforts become very successful, the CP program might not be able to accommodate the many families who would want their children enrolled. Additionally, given the overall demographics in Princeton, there might be even fewer spaces for low-income Spanish speakers. Under these circumstances, an admissions lottery would be in the program’s future, and the district might also clarify and codify admissions adopting a “magnet” status. In DLI schools around the country that wish to maintain a balance of English and Spanish home language speakers in the program, admissions policies are designed to ensure that one group or the other does not become more than two-thirds of the school’s population.

A key question is whether the PPS community at this juncture wishes the DLI program to remain a one-way world language immersion program which serves the more privileged English-speaking population or wishes to transition to a two-way dual language program, in which at least one-third of the population would represent Spanish-speakers, and in Princeton's case, would represent many low-income children. Should the community want the latter option, then a concerted effort would need to be made to gain the confidence and trust (in Spanish, *confianza*) of the less privileged families in the CP and JP neighborhoods who often choose to go to JP, regardless of boundary. These families should always have the right to choose the school for their children, but they deserve a fair representation of the advantages and disadvantages of choosing an English-only program or a bilingual, Spanish-English program. A further systemic issue that would need to be addressed, and which may be the cause of fewer Spanish-speaking families enrolling their children at CP, is that JP currently has a Pre-Kindergarten (PK) program and CP does not. Having PK can be a lifeline for low-income families and, once enrolled in a school with PK, families will keep their children in the school beyond the early years. The district should consider providing a PK program at CP, and the district would then strategize ways to inform Spanish-speaking families of the opportunities for their children in DLI at CP beginning in PK.

One of the limitations in attempting to compare what the program's plans and aspirations were at the start compared to the program now is the lack of a district-endorsed, long-term strategic plan, then and now.

SECTION 4: Description of Student Population by School

A review of demographic information provided by PPS on October 28, 2021, provides an interesting picture of CP that distinguishes it from the other elementary schools in several ways. From the perspective of ethnicity (Table 3), CP has the second largest number of Hispanic students among elementary schools. These data bear out other information collected from focus groups and interviews that JP is the preferred school of Hispanic families, especially newly arriving families to the country, who reportedly come predominantly from Guatemala, whether they live in the school zone for JP or in the school zone for CP. All of these families have the option to attend CP, but most choose *not* to attend the Spanish-English dual language program there.

The data in Table 3 also confirm, as reported by leadership and staff, that CP is a one-way rather than a two-way dual language program. In a one-way program, all, if not all, of the students come from one language background representing one of the school's program languages. In a two-way program, there are approximately equal numbers of students who come from each of the two program-language backgrounds. To be most effective, a two-way program should have an English-to-partner-language ratio of no less than one-third to two-thirds speakers of each language. Out of a total of 323 (PPS, 10-28-21) students at CP, only 44 students or 14% of the students are Hispanic, and two of these students are in the non-dual classes in 4th and 5th grades

(Tables 8 and 10). Interestingly, in looking at Table 4 regarding home languages of students, 35 CP families reported a home language of Spanish. That decreases the number of Spanish native speakers in the school to about 11%.

Another interesting facet of the student population at CP is the number of students who speak a third language at home. Almost as many students (30 - or 9% - of the total reported in Table 4) speak languages at home other than Spanish as speak Spanish at home. These languages include Chinese, French, German, Italian, Korean, Hebrew, Portuguese, Swedish, Greek, Serbian and Bengali. When teachers were asked about language diversity in their classrooms, most teachers spoke to having at least one or two students in their classes from language backgrounds other than English and Spanish.

The population of students at CP represents 24.6% of the overall population of students enrolled in the four PPS elementary schools, (JP represents 27.3%; LB, 26.6%; and RS, 21.5%).

Table 3. Ethnicity by PPS school; number and percentage (Source: PPS, 10/28/2021)

Ethnicity							
	African American	American Indian	Asian	Hispanic	Multi	White	Grand Total
PHS	77	3	395	139	167	760	1541
PMS	55	1	170	94	94	387	801
CP	16	1	27	44	47	188	323
JP	35	0	69	68	55	131	358
LB	16	0	104	11	55	163	349
RS	21	0	35	12	54	161	283
OOD	4	0	9	7	7	17	44
Grand Total	224	5	809	375	479	1807	3699
Ethnicity							
	African American	American Indian	Asian	Hispanic	Multi	White	Grand Total
PHS	5%	0%	26%	9%	11%	49%	100%
PMS	7%	0%	21%	12%	12%	48%	100%
CP	5%	0%	8%	14%	15%	58%	100%
JP	10%	0%	19%	19%	15%	37%	100%
LB	5%	0%	30%	3%	16%	47%	100%
RS	7%	0%	12%	4%	19%	57%	100%
OOD	9%	0%	20%	16%	16%	39%	100%
Grand Total	6%	0%	22%	10%	13%	49%	100%

Table 4. Languages spoken by students by PPS school; numbers (Source: PPS, 10/28/2021)

Home Language	PHS	PMS	CP	JP	LB	RS	OOD	Grand Total
eng	1206	607	258	257	280	238	37	2883
spa	98	73	35	52	5	7	4	274
chi	91	39	5	16	23	5	1	180
fre	25	9	3	0	3	4	1	45
rus	22	5	0	2	9	3	1	42
ger	10	5	3	6	4	5	0	33
kor	7	10	2	6	3	3	0	31
heb	5	10	1	5	4	3	0	28
jpn	8	6	4	3	2	0	0	23
por	7	4	1	2	3	2	0	19
dan	5	2	0	3	1	3	0	14
tur	9	1	0	0	2	0	0	12
enm	3	2	0	0	3	1	0	9
ita	6	1	1	0	1	0	0	9
urd	5	0	0	1	0	1	0	7
gre	2	1	3	1	0	0	0	7
opf	3	3	0	0	0	0	0	6
hin	3	2	0	0	1	0	0	6
hun	3	3	0	0	0	0	0	6
dut	1	1	0	0	1	2	0	5
geo	1	2	2	0	0	0	0	5
swe	2	0	2	0	0	0	0	4
rum	0	2	0	0	1	0	0	3
swa	1	1	0	1	0	0	0	3
frm	2	1	0	0	0	0	0	3
bur	2	1	0	0	0	0	0	3
srp	1	0	1	0	0	0	0	2
dum	0	2	0	0	0	0	0	2
cze	0	0	0	0	0	2	0	2
tel	1	0	0	0	1	0	0	2
gsw	1	0	0	0	0	1	0	2
pol	2	0	0	0	0	0	0	2
bul	0	2	0	0	0	0	0	2
ara	0	1	0	1	0	0	0	2
ben	0	0	1	0	0	1	0	2
cpe	2	0	0	0	0	0	0	2
mdr	2	0	0	0	0	0	0	2
per	1	0	1	0	0	0	0	2
arm	0	1	0	0	0	0	0	1
guj	0	0	0	1	0	0	0	1
tgl	0	0	0	1	0	0	0	1
ace	0	0	0	0	0	1	0	1
ukr	1	0	0	0	0	0	0	1
sgn	0	0	0	0	0	1	0	1
jav	0	0	0	0	1	0	0	1
slv	0	1	0	0	0	0	0	1
tha	1	0	0	0	0	0	0	1
lit	0	1	0	0	0	0	0	1
twi	1	0	0	0	0	0	0	1
hat	0	1	0	0	0	0	0	1
kaz	0	1	0	0	0	0	0	1
nep	0	0	0	0	1	0	0	1
ibo	1	0	0	0	0	0	0	1
Grand Total	1541	801	323	358	349	283	44	3699

Table 5. Low Income by PPS school; percentage and number (Source: PPS, 10/28/2021)

Low Income			
	No	Yes	Grand Total
PHS	91%	9%	100%
PMS	84%	16%	100%
CP	85%	15%	100%
JP	72%	28%	100%
LB	95%	5%	100%
RS	93%	7%	100%
OOD	93%	7%	100%
Grand Total	88%	12%	100%

Low Income			
	No	Yes	Grand Total
PHS	1402	139	1541
PMS	676	125	801
CP	275	48	323
JP	257	101	358
LB	330	19	349
RS	264	19	283
OOD	41	3	44
Grand Total	3245	454	3699

Curiously, CP has the lowest number and percentage of students with Individual Education Plans (IEPs) of all the elementary schools (Table 6), although there are more special education students in the dual language program than the non-dual program in 4th and 5th grades (Tables 7 and 9).

Why there are fewer students with IEPs at CP cannot be discerned without additional investigation. Some staff suggested that students with IEPs were not encouraged to attend the DLI program at CP, especially at the start of the program. From the perspective of some families and teachers, there were not adequate supports in the DLI program for students with disabilities. The CP principal wished it to be known that special education “supports came later – SPED teacher and ‘AIS’ teacher who were bilingual, and that ‘CST’ does not work with the school to understand the program or to develop IEPs that promote keeping SPED students in the program.”

Table 6. IEPs by PPS school; number and percentage (Source PPS, 10/28/2021)

IEP			
	No	Yes	Grand Total
PHS	1341	200	1541
PMS	670	131	801
CP	296	27	323
JP	283	75	358
LB	304	45	349
RS	224	59	283
OOD	0	44	44
Grand Total	3118	581	3699

IEP			
	No	Yes	Grand Total
PHS	87%	13%	100%
PMS	84%	16%	100%
CP	92%	8%	100%
JP	79%	21%	100%
LB	87%	13%	100%
RS	79%	21%	100%
OOD	0%	100%	100%
Grand Total	84%	16%	100%

The tables below (Tables 7-10) describe the students at CP who are in the DLI program and students who are not in the DLI program in 4th and 5th grades. As mentioned above, these grades are being phased out as the school moves to a whole-school DLI model. There are more students in DLI than in non-DLI. There are more males than females overall regardless of program. Although the numbers of Hispanic students are low overall, there are more Hispanic students in DLI than in the non-DLI classes. The majority of Asian students are in the non-DLI program. This is attributed to many Asian students having missed the window to enter the program (upper grade entry). There are more special education students in DLI classrooms than in non-DLI classrooms.

Table 7. Description of Students in **4th grade at CP in DLI Program** (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	16	20	0	1	2	4	0	6	23	3	3	5	0	36

Table 8. Description of Students in **4th grade at CP in non-DLI Program** (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	10	14	0	7	0	1	0	3	13	4	2	2	0	24

Table 9. Description of Students in **5th grade at CP in DLI Program** (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	17	19	0	0	2	4	0	5	25	7	4	4	0	36

Table 10. Description of Students in **5th grade at CP in non-DLI Program** (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	12	18	0	5	2	1	0	3	19	2	2	2	0	30

At PMS, there are a total of 62 students in the DLI program in grades 6 and 7. The majority of these students started in the program when it opened in 2015 for Kindergartners and first graders. The students in DLI make up approximately 7.5 % of the total population of 829 students in the school (Table 13).

As at CP, the majority of students in the DLI program at PMS are White. At PMS, slightly less than half of students in the school as a whole are White (47.6%). Hispanic students make up the majority of non-White students in DLI 6th grade and Multiracial students make up the majority students in 7th grade DLI classes. Hispanics are better represented in the DLI program than in the school as a whole; they make up about 19% of DLI program students, but about 12% of the overall population at the school. Asian and Black students are both under-represented in the DLI program as compared with their representation in the school as a whole (Asians are 21.6 % of the student body as a whole but there is only one Asian student in the DLI program). The number of Blacks is small in the whole school (7.1%) but even smaller in the DLI program where there are two students. In respect to income, low-income students make up 14.5% of the DLI program, which is similar to the 15.2% low-income students served in the school as a whole.

Table 11. Description of Students in 6th grade at PMS in DLI Program (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	14	15	0	0	1	9	0	2	17	6	0	3	0	29

Table 12. Description of Students in 7th grade at PMS in DLI Program (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	21	12	0	1	1	3	0	9	19	3	1	1	1	33

Table 13. Description of all Students at PMS (Source: PPS, 5-9-22)

School	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Princeton Middle School	49%	51%	0.10%	21.60%	7.10%	11.90%	0%	11.60%	47.60%	15.20%	4.30%	16.50%	1.70%	100%
Grade 6	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	114	143	0	57	22	35	0	28	115	47	8	50	0	257
Grade 7	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	149	148	0	63	18	30	0	38	148	34	16	44	14	297
Grade 8	Female	Male	American Indian	Asian	Black	Hispanic	Pacific Islander	Multi	White	Low Income	ELL	Special Ed.	504	Total
Counts	143	132	1	59	19	34	0	30	132	45	12	43	0	275

DISCUSSION AND RECOMMENDATIONS

The demographic data that was made available about the CP and PMS DLI populations in contrast to other elementary schools and, in the case of PMS, to the school overall, revealed several important aspects of the program's population. The data bear out the fact that whatever the early aspirations may have or may not have been, the DLI program is not serving relatively larger numbers of low-income students and is not serving many students who come to school speaking Spanish in the home. This is unfortunate given the many benefits for English learners who attend dual language programs, for example:

- Research shows that English learners (ELs) benefit from continuing to learn in their native language (Lindholm-Leary & Genesee, 2010);
- Oral proficiency and literacy in a student's first language facilitates English literacy development (August & Shanahan, 2006); and
- ELs are less likely to fall behind in core subject areas if they are able to continue learning grade-level content in their home language while acquiring proficiency in English (Lindholm-Leary & Genesee, 2010).

Specifically for Spanish speaking English learners (Relyea & Amendum, 2019):

- stronger early Spanish reading in Kinder was related to greater English reading growth by 4th grade;
- students in stronger Spanish reading group but with lower English oral proficiency initially began behind their counterparts in reading but caught up with and surpassed them later;
- Initial, well-developed Spanish reading competence plays a greater role in English reading development than English oral proficiency.

The fact that fewer students with IEPs are enrolled at CP than at other elementary schools is worth further investigation. There is no evidence that bilingualism exacerbates language impairment and students with language impairments can benefit from support in both languages academically and cognitively; more specifically: supporting early learning in the first language can have long-term benefits for second language development and academic success (Paradis, Genesee & Crago, 2011). These authors also state that children with language or cognitive disabilities have the capacity to become bilingual and that parents should not be counseled to raise children with developmental disorders monolingually instead of bilingually. What is important is that students with disabilities of these kinds should be provided with special education resource support in both program languages.

SECTION 5: What is the Level of Acquisition of Spanish on the Part of Students in the DLI Program?

To evaluate the effectiveness of a DLI program, one needs to review progress students are making academically, usually by looking at state English reading/language arts and math assessments, and by looking at assessments in the partner language, in this case, Spanish.

The pandemic has undoubtedly wreaked havoc with monitoring the progress students have made academically, and for English learners, in English. CP and PMS also missed out on opportunities to assess the development of Spanish for students in the dual language program. A first-time administration of the ACTFL Assessment of Performance toward Proficiency in Languages (AAPPL) in Spanish, a Spanish-language test, was administered in school year 2017-2018 to 35 DLI third graders in the domain of speaking only and then administered in all four domains

(listening, speaking, reading and writing) to 36 fourth graders in school year 2018-2019 (all students were the same except one who was not tested in third grade).

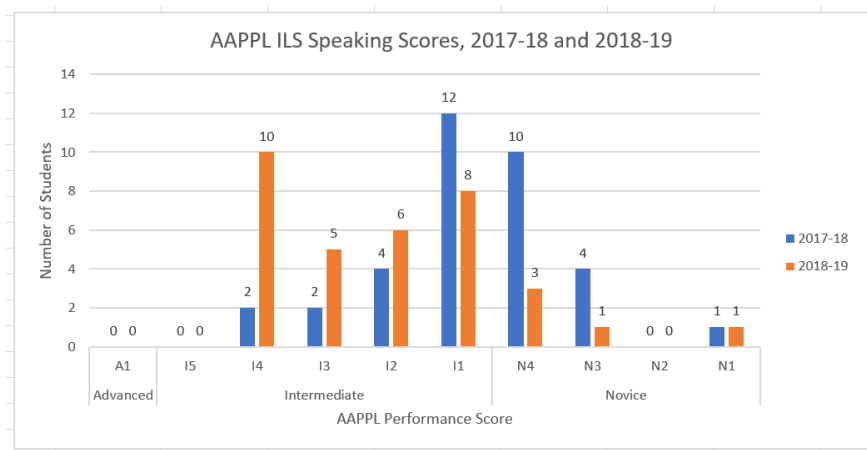
Administered in May of both school years, the cohort of third graders would have been in their 3rd or 4th year of DLI education depending on whether they started in Kinder or first grade, and the same students tested a year later would have had 3 or 4 school years of DLI under their belt. In third grade, most students in third grade tested at either the highest level of novice (the beginning level) or at the lowest level of intermediate (Table 13) in Speaking.

Table 13. AAPPL Speaking Scores of Third Graders in SY 17-18

Advanced	A1	0
Intermediate	I5	0
	I4	2
	I3	2
	I2	4
	I1	12
Novice	N4	10
	N3	4
	N2	0
	N1	1

As per Table 14, after an additional year of Spanish instruction, 21 students performed above the Intermediate level 1 in Speaking where the year before only 8 students had reached that level. In fact, in fourth grade, 10 students reached the high intermediate level of “4.” Table 14 displays high potential performance scores on the left and low potential scores on the right (Advanced to Novice). The table provides a visual display of the progress students made in speaking Spanish from third to fourth grade with the numbers on the chart growing on the left and the numbers falling on the right.

Table 14. AAPPL Speaking Scores of Third Graders in SY 17-18 in comparison with Fourth Graders in SY 18-19 in graphic form

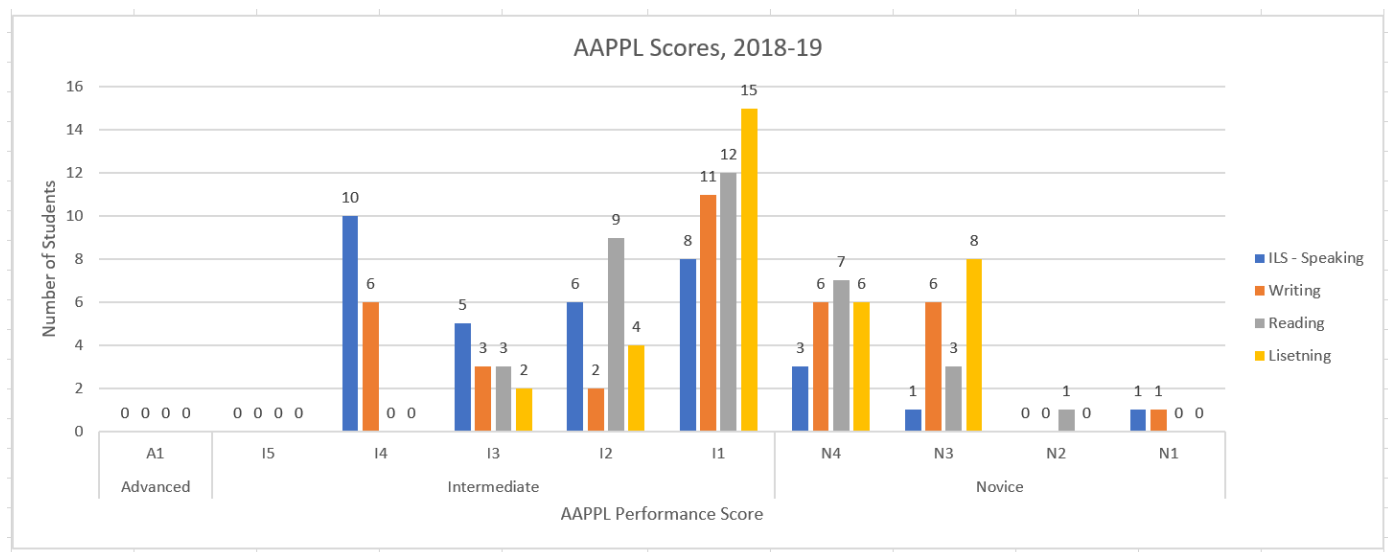


In fourth grade, for which there are no comparison scores for writing, reading, and listening, the majority of students performed best in speaking (29 students in the intermediate range) followed by listening, then reading and writing. Nine students performed at the high intermediate levels (I3 and I4) in writing (see Table 15). In language domains other than speaking, most students performed at the lowest level of Intermediate (I1) (Tables 15 and 16).

Table 15. AAPPL Speaking, Writing, Reading and Listening Scores of Fourth Graders in SY 17-18 in chart form

		2018-19 ILS - Speaking	Writing Writing	Reading Reading	Listening Listening
Advanced	A1	0	0	0	0
Intermediate	I5	0	0	0	0
	I4	10	6	0	0
	I3	5	3	3	2
	I2	6	2	9	4
	I1	8	11	12	15
Novice	N4	3	6	7	6
	N3	1	6	3	8
	N2	0	0	1	0
	N1	1	1	0	0

Table 16. AAPPL Speaking, Writing, Reading and Listening Scores of Fourth Graders in SY 18-19 in graphic form



DISCUSSION AND RECOMMENDATIONS

According to the *Guiding Principles for Dual Language Programs* (Howard et al., 2018), dual language programs require the use of multiple measures in both languages to assess students' progress toward meeting bilingualism and biliteracy goals as well as curricular and content-related goals, especially for oral language proficiency and literacy skills in the partner language. The general wisdom is that tests of the partner language should not be world/foreign language tests but instead tests of language embedded in the content in which language is developed.

In realizing the importance of having a measure of Spanish proficiency, in SY 2018-2019 fourth-grade students in the CP DLI program were given the AAPPL test in Spanish. These results appear above. As described on its website (<https://www.languageTesting.com/aappl>), the AAPPL test is a foreign language test. There are many DLI programs across the U.S. that use the AAPPL test; the DLI program researched having a reliable test to gauge Spanish language development and chose AAPPL. Considered the “gold standard for DLI programs” by the PPS world language specialist, some experts (for example, authors of the *Guiding Principles for Dual Language Education* (Howard, et al. 2018) view foreign language tests as problematic for DLI programs. The problem is that DLI programs are not foreign/world language programs, and the results can be less than accurate because students in DLI programs do not learn language in the way that foreign languages are taught and assessed. Instead, in DLI programs, students learn the language using content instruction as the vehicle for both content and language achievement rather than taught explicit grammar. The CP principal vouched for the fact that “other teacher-made and purchased assessments are also used to determine Spanish language proficiency progress (there are multiple measures)” that reflect the Spanish oral language and literacy capacities learned in DLI classes, and that provide formative feedback to teachers about the students' oral language and literacy growth. This should certainly continue. There are plans for AAPPL to be administered again in 2023. This is worth doing; results just need to be interpreted from the perspective of how learning a language in a foreign/world language class is different from learning language in a DLI program.

A further assessment issue voiced by the world language specialist was the LinkIt Math assessment having been administered in English, whereas the students learn math in Spanish. Generally speaking, students should be assessed in the language in which they are learning. If the same math skills were also assessed using Spanish instruments, the results of the Spanish assessments should be recognized by the district and the English math assessments interpreted cautiously.

SECTION 6: Academic Performance

Without data for the pandemic years, the decision was made by CAL to review the Official Site of the State of New Jersey School Performance Report (<https://rc.doe.state.nj.us/>) for the PPS elementary schools for the most recent data available, that is for the school year prior to 2019-

2020 when the Pandemic began. Tables 7-10 represent screen shots of charts taken from the NJ state accountability site.

ELA performance outcomes that may be worthy of mention are those related to comparing CP and JP in the area of Enrollment Trends by Student Group (also available on the NJ state website). Tables 17. and 18. report student group performance percentages for SY 2018-2019 (assessments were cancelled in SY 19-20 and SY 20-21). If we compare the ELA performance data for CP and JP for SY 2018-2019, we find that CP students performed less well in third, fourth, and fifth grades than students in those grades at JP. This is interesting given that JP had considerably more economically disadvantaged students (30% to CP's 18.1%) and more students with disabilities (27.9% to CP's 17.3%) as a percentage of their overall population during the same school year. The EL populations at JP and CP were the same that year (8.8%) (see Tables 19 and 20). It would be unfair to attribute the lower performance at CP in grades 3, 4 and 5 to the DLI program, however, because during that school year, not all students were in DLI classes, and the data are not disaggregated by program type.

Table 17. Percentage of Community Park Students Who Meet or Exceeded Grade-level Expectations on the NJSLA for English language arts for SY 2018-2019

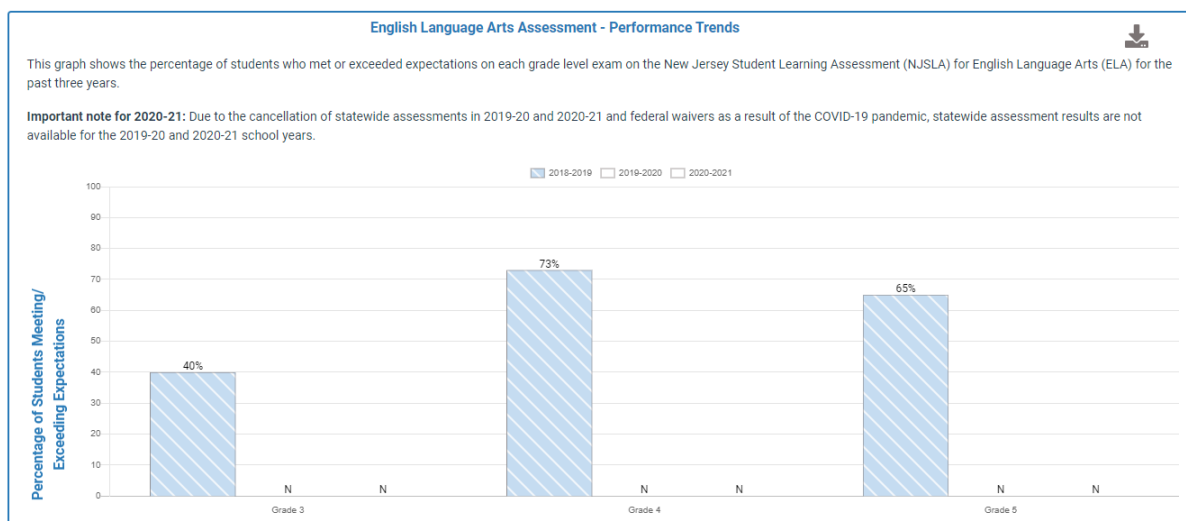
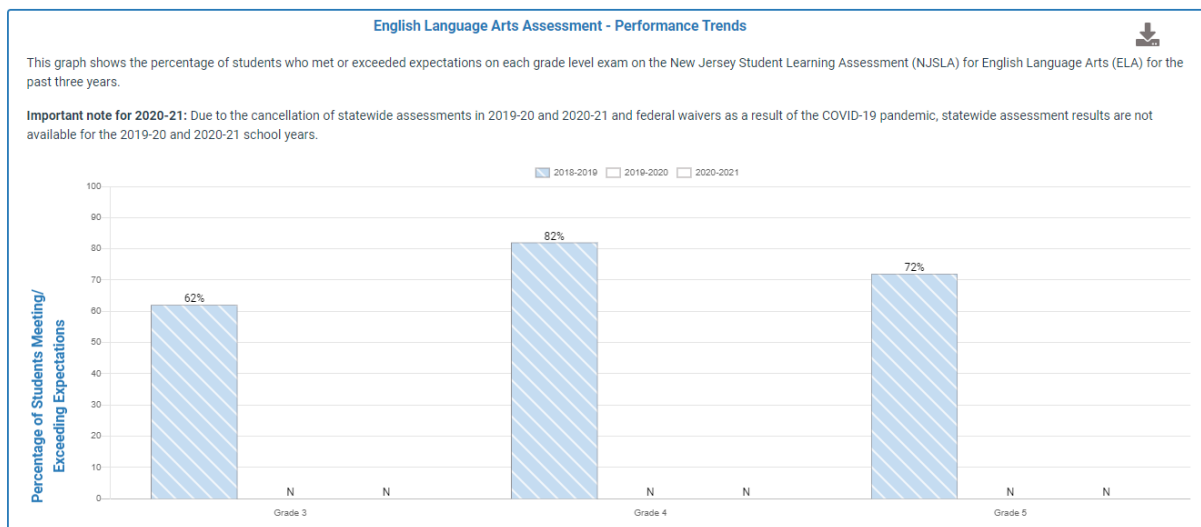


Table 18. Percentage of Johnson Park Students Who Meet or Exceeded Grade-level Expectations on the NJSLA for English language arts for SY 2018-2019



Tables 19. Community Park Enrollment Trends by Student Group; SY2016 – SY2021 (2 charts below)

Enrollment Trends by Student Group			
This table shows the percentage of students by student group for the past three school years. Data for some student groups was not available before 2016-17.			
Student Group	2015-16	2016-17	2017-18
Female	48.6%	48.3%	46.7%
Male	51.4%	51.7%	53.3%
Economically Disadvantaged Students	20.9%	17.6%	20.2%
Students with Disabilities	16.8%	16.5%	18.6%
English Learners	10.0%	6.7%	4.5%
Homeless Students		0.0%	0.0%
Students in Foster Care		0.5%	0.8%
Military-Connected Students		0.0%	0.0%
Migrant Students		0.0%	0.0%

Student Group	2018-19	2019-20	2020-21
Female	48.7%	50.0%	46.0%
Male	51.3%	50.0%	54.0%
Non-Binary/Undesignated Gender		<1%	≤1%
Economically Disadvantaged Students	18.1%	19.6%	17.4%
Students with Disabilities	17.3%	13.5%	14.1%
English Learners	8.8%	9.3%	7.6%
Homeless Students	0.0%	0.0%	0.3%
Students in Foster Care	0.0%	0.0%	0.0%
Military-Connected Students	0.0%	0.0%	0.0%
Migrant Students	0.0%	0.0%	0.0%

Tables 20. Johnson Park Enrollment Trends by Student Group; S 2016 - SY2021 (2 charts below)

Enrollment Trends by Student Group

This table shows the percentage of students by student group for the past three school years.

Student Group	2016-17	2017-18	2018-19
Female	43.4%	45.6%	44.3%
Male	56.6%	54.4%	55.7%
Economically Disadvantaged Students	27.4%	27.9%	30.0%
Students with Disabilities	25.3%	27.9%	27.9%
English Learners	6.6%	5.9%	8.8%
Homeless Students	0.3%	0.3%	0.0%
Students in Foster Care	0.0%	0.0%	0.0%
Military-Connected Students	0.0%	0.0%	0.0%
Migrant Students	0.0%	0.0%	0.0%

Student Group	2018-19	2019-20	2020-21
Female	44.3%	40.5%	40.0%
Male	55.7%	59.5%	60.0%
Non-Binary/Undesignated Gender		<1%	≤1%
Economically Disadvantaged Students	30.0%	25.5%	27.9%
Students with Disabilities	27.9%	28.2%	27.3%
English Learners	8.8%	9.4%	6.2%
Homeless Students	0.0%	0.0%	0.3%
Students in Foster Care	0.0%	0.0%	0.0%
Military-Connected Students	0.0%	0.0%	0.0%
Migrant Students	0.0%	0.0%	0.0%

A comparison of math performance between CP and JP for grades 3, 4, and 5 for SY 2018-2019 (Tables 20 and 21) shows very similar performance in third and fourth grades, but JP has 9% more students in fifth grade meeting or exceeding math standards than CP. The difference in 5th grade performance cannot be attributed to the CP DLI program because information was not available on the state site regarding math performance by program type at CP, and in that year, there were both DLI and non-DLI classes in 5th grade. Math results of CP DLI students also need to be interpreted cautiously, as mentioned above, because students were tested in English on math content they learned in Spanish.

Table 21. Percentage of Community Park Students Who Met or Exceeded Grade-level Expectations on the NJSLA for Mathematics for SY 2018-2019

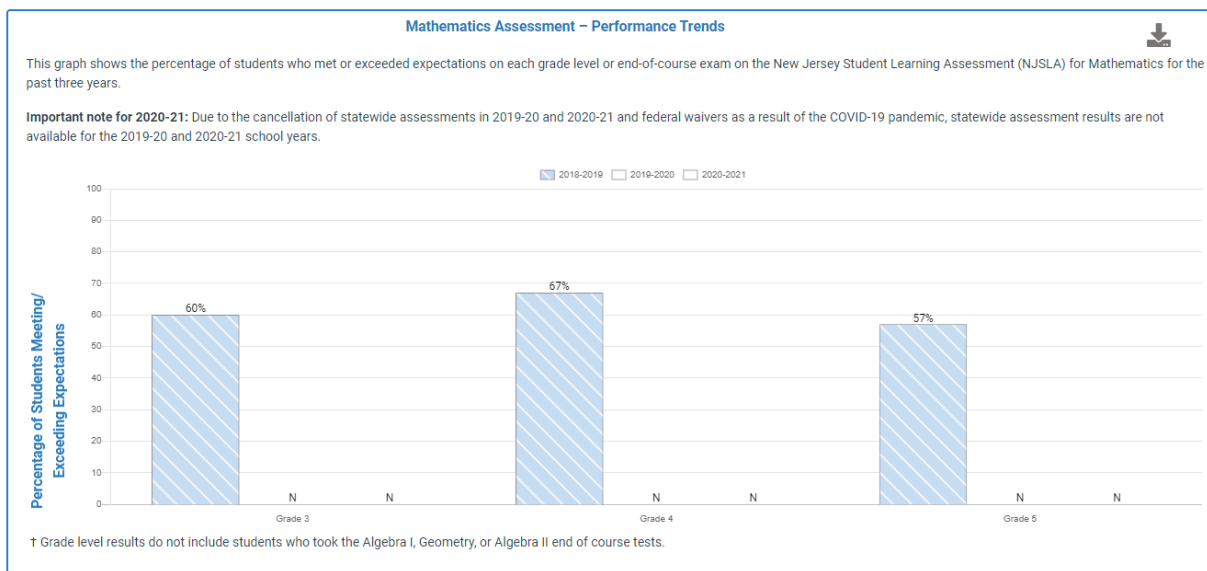
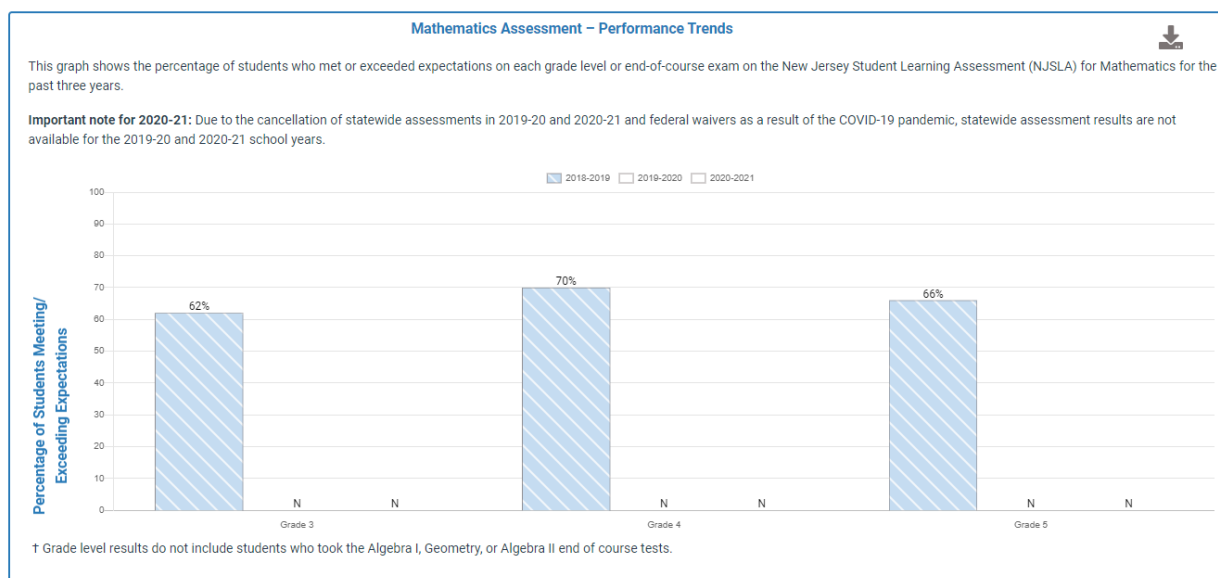


Table 22. Percentage of Johnson Park Students Who Met or Exceeded Grade-level Expectations on the NJSLA for Mathematics for SY 2018-2019



DISCUSSION AND RECOMMENDATIONS

Determining student academic performance is very difficult at this time because the NJ state assessments were not administered for two school years during the Pandemic. Available data for

the year prior seem to indicate that CP students performed less well than students at JP on the ELA test for that year, especially in third grade, and comparably in Math to JP (except in 5th grade) despite a smaller percentage of economically disadvantaged and special education students at CP. Since the NJ state site does not provide information by program type, it was impossible to determine if differences in performance between CP and JP can be attributed to the DLI-program students or non-DLI program students, or both – or to CP students taking the math test in English when they had learned math in Spanish. The ELA data pulled from the NJ state site also does not include performance by sub-group. Looking at sub-groups could shed more light on the discrepancies in performance at the two schools.

If it was the 3rd grade DLI students who did not perform as well as their peers on English state standardized tests, that is not unusual. Typically, grade K-3 students in DLI programs score lower or equivalent to comparison-group peers (Lindholm-Leary, 2012) because they are learning in two languages rather than in one. However, longitudinal studies of the performance of students, both English home language and English learners, show that students in DLI programs perform equivalent to or better than their peers in non DLI-programs over the course of their K-12 education (Thomas & Collier, 1997; Burkhauser, et al., 2016).

SECTION 7: What do Staff, Parents and Students Believe are the Benefits of Bi/Multilingualism, the Best Aspects of the DLI Programs in PPS Today, and What do They Believe Needs to be Improved?

Staff

As described above (Table 1), information about the PPS DLI programs was collected in focus groups in which the CAL researcher spoke with 56 persons. The views came from central office, CP administrators and teachers, PMS administrators and teachers, and from two other elementary schools that do not have the DLI program.

When asked about the advantages of the program and what is working, CP teachers spoke of the cumulative advantages of DLI that mean that CP DLI students enter 6th grade with “an incredible amount of Spanish, that the students are constantly challenged, and that the students are exposed to cultural perspectives that don’t exist in monolingual programs.”

In DLI programs, English and Spanish teachers must partner closely to deliver an effective and coherent program to the students. The teachers spoke to advantages of having a partner teacher, with whom to manage and build community and communicate with families. Teachers spoke of having a support system in each other. The world languages specialist noted that “both teachers attend all conferences (both ELA and Spanish, for example, attending 44 conferences rather than 22), and students participate in student-led conferences in the spring in the target language.”

The world language specialist wished to point out that CP has “an offering of after-school clubs/programming in Spanish.”

When asked what's not working, teachers immediately responded that the program needed a curriculum for Spanish language arts and connections made between English literacy and language and Spanish literacy and language. The staff said they had the materials they need to teach math and science but had to make up everything they did in the Spanish language block and that they desperately needed a Spanish language arts curriculum, together with professional development. The teachers also spoke to problems that arose in later elementary grades regarding math taught in Spanish. Teachers believed they need greater knowledge and support to determine whether lack of progress in math on the part of some students should be attributed to lack of Spanish language or struggles to learn math concepts independent of language. More than one teacher at CP spoke to the relatively recently adopted math curriculum as being particularly challenging, regardless of language, and voiced a preference for the earlier math curriculum.

Some teachers questioned the commitment of families to the Spanish program, inferring that Spanish was not as important as English to some parents. Many students, especially in the upper grades, preferred not to speak in Spanish during Spanish instruction.

CP teachers also lamented changes in program offerings from year to year, specifically the number of classrooms devoted to DLI at each grade level. This was explained by administration as having to adapt the number of classrooms based on enrollment. In fact, prior to the pandemic, enrollment oddities led to a triad arrangement (three classrooms rather than 2 or 4, which did not lend itself to the partnering model). They also recommended that a valid and reliable assessment be used to determine if newly-enrolling students have the Spanish skills needed to perform successfully in the later years of the program.

CP teachers spoke of a lack of vision and plan for goals and expectations in Spanish, and in particular, a lack of communication with and understanding of the program on the part of PPS central administrators.

To say that the non-DLI teachers at CP are not happy is an understatement. The CAL researcher spoke with them in February, and they did not know the status of their positions at CP for the following year. They reported that they were told earlier that there would always be a non-DLI strand at the school. Unfortunately, these dilemmas exist for all dual schools that transition from non-DLI to DLI strand to whole school DLI. The issue here is that decisions do not appear to have been made for the long term, put in writing, and shared widely. If this is the case, it is unfair to teachers whose livelihoods and professional and emotional well-being are at stake when they are not informed in a timely way of changes of this magnitude. According to the CP principal, "teachers who are unhappy with DLI were informed and provided options starting in 2013/14 in the planning stages."

Although staffing of Spanish-proficient teachers was not voiced generally as an issue for CP (other than finding staff to teach specials in Spanish), the world languages specialist said that "the middle school needs to attract bilingual candidates." PPS Human Resources "(HR) has not been key in helping the hiring process; no active recruitment from the HR department. [She] had to advocate for several years to change bilingual job descriptions."

Parents

The overwhelming majority of parents who participated in the focus groups were parents with children in the DLI program (44 parents). However, there were 9 parents who attended who had chosen not to enroll or re-enroll at least some of their children in the program.

Parents with children in the DLI program stated numerous reasons for doing so. At the top of list were the opportunities that knowing a language other than English would provide their children in the future: academically, professionally, and socially. Numerous parents voiced the advantages to learning a second language proficiently that are afforded by DLI programs where students spend half of their time “in a safe environment” learning in the language other than English. The second most common reason for selecting the DLI program was the information parents had received about the cognitive advantages to being bilingual. Numerous studies have shown heightened executive functioning in long-term bilinguals, many of which were conducted by Ellen Bialystok at York University in Canada in collaboration with others (for example, see Bialystok, et al., 2012). An additional advantage voiced by some were the cross-cultural and communicative advantages of learning a second language and learning about Spanish-speaking countries and customs. In this context, parents spoke of the numerous countries from which the Spanish-speaking teachers in the DLI programs come. Several parents also spoke to the missed opportunity in their own lives to learn a second language that they did not want their children to miss. Others spoke of wanting to maintain and grow their children’s Spanish language abilities (nine focus-group parents identified as speaking Spanish in the home).

Other less frequently reported benefits, but worthy of comment, included the following:

- Global awareness/perspective; “realizing the world is bigger;” “sense of openness to the world”
- Gaining cultural sensitivity from the perspective of recognizing the Spanish-speaking students as “little leaders;” Spanish speaking students are seen from an additive rather than a deficit perspective because they have the strengths (“superpower” asset) in Spanish
- Give the children the “gift of confidence” in the second language
- “Exposure to diverse setting”

When asked about the best aspects of the program, a majority of parents spoke to the quality and dedication of the Spanish-speaking teachers and aides who are, in the words of one parent, “phenomenal,” and in the words of another “the greatest on the planet.” The Spanish-speaking staff, many of whom reportedly had taught at the school before the transition to dual, “set the tone” for the students and perform many extra duties, including translation of materials. Parents mentioned that they like that Spanish-speaking teachers come from a variety of Spanish-speaking countries, ensuring native language proficiency, while adding cultural diversity.

In addressing learning in a pandemic, the responses varied by grade level. Numerous parents spoke of their children learning “amazingly” well throughout remote schooling while others said that the period of learning at home had led to Spanish learning loss for their children. Many parents spoke to having children who are happy and challenged. One parent said, “[my child] loves to go to school.” Another parent commented that the work her child is doing in Spanish in middle school, “blows my mind.”

One of the criticisms of the program voiced by some parents and some staff alike was the perceived “lack of a bilingual, bicultural identity” in the school. This perception is evidenced by the degree to which English takes precedence in the school: the English language arts curricula, the English assessments, the time in English instruction, the visibility of English over Spanish in the school environment. Dual language programs have three goals: bilingualism and biliteracy, high academic achievement in both languages, and socio-cultural competence (Howard, et al., 2018). For a program to be effective in meeting all three goals, it must ensure linguistic and cultural equity for the language other than English.

Parents with children at all grade levels spoke openly about the lack of a plan for the program. They spoke about having little to no information about the middle school program, and no information about what the expectations are for the program in high school. One parent said, “it doesn’t inspire much confidence when it looks like the program is being made up in flight.” The CP principal added these comments: “This [the post-CP program] needs to be addressed and rectified. If this continues, parents will not sign their child up for the program. They will not see a benefit in placing their child in a program for 6 years in elementary school all for it to fall apart at the upper levels.”

A recurring theme with parents in the focus groups was a sentiment that the district central office staff are not fond of the program and have not been supportive of the program. One parent said, “we have to fight for everything.” (The world language specialist had also commented, “Not a single book in Spanish was on the district Summer Reading list.”)

Although very happy to see the continuation of the DLI program in the middle school, it was at this level that parents were most worried about the lack of communication regarding future DLI programming for their children. One parent said, “I have to commit my child to the program next week, but I haven’t received any information yet.” The world languages specialist responded with the following feedback: “Last eight years we have had the plan to have Social Studies and Spanish as immersion classes [at the middle school]; at the high school level we have 12 levels of Spanish and students would find appropriate placement. [The] recommendation is that DLI students will take AP after freshman year.” The world languages specialist believes that the “middle school’s orientation/explanation of the program needs to address the inclusion of DLI program and students.”

Elementary DLI Students

The CAL researcher spoke with elementary school students enrolled in DLI in groups of 2 or 3 students, chosen by the school with parental permission. The students ranged from Kinder

through 5th grade with two students not in the DLI program coming from 4/5th grades. Students were asked four questions: what they believed the benefits were to be being bilingual (and for some of them, trilingual); what they liked about the DLI program; and how they would improve it. The researcher asked, “if you had a magic wand, what would you do to make the program better?” The conversations were conducted bilingually by the CAL researcher who has advanced proficiency in Spanish in the receptive language skills of listening and reading, and intermediate skills in the productive skills of speaking and writing, and all of the school-selected students had conversational skills in both languages.

Benefits included:

- you can talk with others who only know Spanish [who are unable to speak English] /communicate with more people
- you can translate
- be a doctor and go to other countries/help people/enter the health field
- opens more doors/more opportunities
- make more connections with people
- better for travel

The students spoke favorably of the program stating that it was easy to learn Spanish; it was fun to speak Spanish; and they liked learning reading and writing in English and science and math in Spanish. Students said they felt comfortable, and the teachers “know what they are doing.”

When asked about improvements, a few students spoke about teachers using English during Spanish time to help them; one student said he wished that the teacher used more English. Another felt that students who needed help in Spanish with math were mainly silent when they should ask for more help. When asked if they wished to add anything, one student commented; “it’s easier to speak in English; in Spanish you can’t express it.” When asked what language the students used in the hallways, in the cafeteria, and on the playground, all of the DLI students answered with “English.”

Fourth and fifth grade students were asked if they had friends in non-DLI and vice versa. The students said yes, but spoke of some tension, for example DLI and non-DLI students preferring to play with their own classmates at recess. The student said, “they think we are rude, and we think they are rude.” Interestingly, some of the 4th and 5th grade teachers also spoke to a perceived social divide that existed between students in the DLI and the traditional program. The CP principal said that “the perceived ‘social divide’ is not a DLI phenomenon.” This is an issue that will go away after next school year, but if there are any social problems that occur next year, special efforts should be made to bring students together.

Middle School DLI Students

The focus groups with program-selected students in 6th and 7th grades at PMS were conducted in conversational English and Spanish. Seven of the students were in 6th grade, and four were in 7th grade. Three of the students had Spanish in their immediate backgrounds. The students were able

to converse in Spanish and English. The students were asked to self-report their abilities in Spanish. The self-reported ratings are represented in Table 23.

Table 23. Self-report by 6th and 7th graders in DLI program at PMS of Spanish-language abilities (n = 11)

Domain	Listening	Speaking	Reading	Writing
High	10	6	5	6
High-Medium	-	5	6	-
Medium	1	-	-	5
Low	-	-	-	-

Although these results are far from an objective test of language, and students may have been influenced by the reports of others since these questions were posed as a group rather than individually, the results are interesting and representative of what we often find when testing the language competencies of students in DLI even after numerous years of instruction in the partner language. Students most often excel in the receptive language domain of listening and this was borne out by these students, all but one of whom felt that they have high levels of Spanish listening skills. That more students felt that they were at a “medium” level in writing was not surprising either as the productive skill of writing is often the hardest of the language skills to master. That students believed that they had either high or almost high skills in speaking and reading reflects well on the program. These results need to be interpreted with the limitation in mind that these students were chosen to speak with the CAL researcher and were reporting in front of their peers.

The middle school students noted what they believed were benefits of being bilingual. These included:

- Employment opportunities
- To be able to help and translate for people
- Interpret for your family when traveling
- Learning a second language helps to learn additional languages
- Communicate with more people.

One of the students whose father came from a Spanish-speaking country said that being in the program allowed the student to move beyond oral language to read and write. Another heritage language speaker said that the DLI program “saved her” from losing her Spanish. She described that after a year in PK in which she believes she was losing her Spanish, she gained it back in the ensuing years in the DLI program at CP.

When asked what they liked about the DLI program, students commented that they liked learning and thinking in Spanish, that they are a community with many friends (for most of them, having been together since Kinder or first grade) and the teachers were great.

When asked what they didn't like about the program, students were quite candid. Some voiced that, although the students in the focus groups reported liking the community aspect of being in the DLI program with the same students for 7 or 8 years, they reported that some of their peers were less than excited about this from a social perspective. Since only two of their classes at the middle school were in Spanish, the students felt like they had opportunities to mix with other students during the rest of their schedule in English classes. When asked about the transition to math in English at PMS after math in Spanish during their years at CP, most of the students said that the transition was easy because they knew the concepts, but that it did take some time to learn the math terminology in English. Numerous students spoke to experiencing Spanish language loss or lack of progress because of the lack of in-person instruction during the COVID closures.

Students made interesting comments that have programmatic implications. They observed that students in the program were at very different levels of Spanish proficiency. They believed that students should be tested for placement in either higher or lower Spanish-language social studies and world language classes. They reported that students who entered the program later had more difficulty than those who started in the first year. Although two students voiced wanting more classes in Spanish, most students believed that having two core subjects in Spanish worked well for them.

DISCUSSION AND RECOMMENDATIONS

The most pressing issue from an instructional perspective was the need voiced by many respondents that the program devotes adequate time to the development of Spanish language and literacy and adopts a Spanish language arts curriculum. Based on recommendations in the *Guiding Principles for Effective Dual Language Programs* (Howard et al., 2018), for students in 50:50 DLI programs to become bilingual and biliterate, a core goal, they should have equal amounts of English language arts and Spanish language arts at all grade levels, and teachers should have the necessary Spanish materials to teach Spanish language and literacy using an authentic Spanish language arts curriculum. This need was reinforced by the CP principal who said, "we need a Spanish Language Arts program. The Teachers' College (TC) units in Spanish are not adequate. These students need to learn the Spanish language. The TC units are meant for native Spanish speakers."

In a 50:50 program, students should also have half of all instruction in one language and half in the other. Since all specials are provided in English, the program does not provide equal amounts of Spanish and English instruction. It would benefit the program to have specials like P.E., art and music provided in Spanish.

Adopting a Spanish language arts program is one step toward developing a biliteracy curriculum. A fully developed biliteracy curriculum would carefully target the grade-level objectives of the district-identified English language arts and Spanish language arts standards, develop a scope and sequence/pacing guide that reflects transferrable and non-transferrable literacy skills, and describe what is taught in each language so that instruction methodically builds on/provides

practice rather than repeats the language arts skills and knowledge that are transferrable, and ensures that non-transferrable skills are explicitly taught. Companion guides can provide grade by grade expectations for literacy development in each language to ensure vertical alignment in implementation. Furthermore, interdisciplinary, thematic units of study that address the expectations of the content curriculum and that include opportunities for bridging are also an important aspect of effective biliteracy development.

Regarding other materials to support the DLI program in Spanish, the world languages content specialist added, “many resources for DLI-specific instruction have been donated by the PTO, World Language funding, or building funding. Ready Math and Amplify Science promised Spanish materials but have fallen short.”

A further recommendation in the *Guiding Principles* is that every core subject area is taught in both program languages over the course of the DLI program. Why? The students will grasp the content-area concepts regardless of language (provided that sheltering techniques are used by the teacher to ensure comprehension), but the students will not learn the language of the content unless it is taught in each language. For this reason, it would be wise for the program to consider alternating the teaching of the core subjects (math, science, and social studies) between languages. This can be done by quarter, by semester, or by year. This would also serve to ensure a smooth transition to math taught solely in Spanish in middle school. The CP principal also commented here: “Logistically it would be easier to switch by year. It would also be more cost effective as only certain grade levels would need new materials for instruction in that specific language (e.g., math in English).”

That students reportedly prefer to speak in English in Spanish instruction (especially in the upper grades at CP). This can be the result of the following factors or a combination of both: (1) the students do not have the instructional supports/scaffolds needed to produce the language, such as sentence starters, fill in the blank sentences, word banks, peers with whom to partner, graphic organizers, etc., or (2) the students do not place the same value on Spanish as they do on English and, therefore, prefer to use English. For the former, teachers would need focused professional development on using sheltering techniques and, for the latter, the school would need to make a concerted effort to raise the status of Spanish schoolwide from the earliest years (see language equity strategies in Appendix B).

The world languages specialist provided ways that the school currently works to boost equity of Spanish: “Signage across the school is in both ELA and Spanish, pledge rotates in Spanish and English, student writing pieces, art, assemblies are in Spanish. Focus has been on Health & Safety signage (which were in both languages). “Want to bring back even more signage,” she said.

Uneven enrollment, especially during the Pandemic, led to shifts in numbers of DLI classrooms in the early grade levels. This was destabilizing but unavoidable. A long-range outreach campaign with expected quotas for enrollment should help to solve this problem.

The most important recommendation, and the most urgent, is the need for a strategic plan/blueprint that expresses the commitment of the community, district, and schools for the PPS DLI program. The plan would include mission, vision, program descriptions through grade 12, the action steps that will be taken to meet the goals and objectives of the plan; the responsible parties; the timeline for completion; and costs and funding sources. In addition, such plans should engage stakeholders in development, and all plans should be communicated widely in the Princeton community.

SECTION 8: What are the Reasons that Eligible In-Boundary and Out-of-Boundary Families Decide to Opt Out of the DLI Program?

Nine parents came forward who did not have some or all of their children in the DLI program. One of the parents spoke of having intentionally moved their child out of the program because they believed that the caliber of academic instruction in Spanish was not rigorous enough and there was too little attention paid to formal Spanish language instruction, especially in writing. Another parent spoke of not placing their child in a program that they believed had not been in existence long enough to provide proof of success based on public assessment data, especially in math. Other reasons for opting out overlapped with areas of general dissatisfaction discussed in more detail in the section above.

The CAL researcher had hoped that Spanish speaking families who live close to CP but who choose to send their children to JP would be present at focus-group sessions; however, this was not the case. Instead, the CAL researcher spoke with the parent liaison who works with the families to ascertain reasons for not enrolling their children at CP. The parent liaison reported that the families she serves come mainly from Guatemala, and live in houses, often many persons to a household in the neighborhood that straddles the JP and CP boundaries. The families are low income and often have little to no literacy in the first language. The families, reportedly, believe that their children are better off at JP learning English than participating in a Spanish-English program.

DISCUSSION AND RECOMMENDATIONS

It is important to keep in mind that comments from just a few parents do not constitute a representational sample of families who have chosen not to enroll their children in the DLI program and that the Spanish speaking families did not speak for themselves. That said, other comments from teachers and school staff lend credibility to the need to shore up Spanish instruction especially as it relates to teaching Spanish language and literacy. It was reported to the CAL researcher by school staff that a Spanish language arts product has been identified and recommended for purchase to ensure the explicit teaching of Spanish language and literacy. This is excellent.

As previously mentioned in the performance section above, it will be important for the program to collect formative and summative academic and language performance data to ensure that students are making academic and linguistic progress in both languages over time so this can be communicated to prospective families.

That the Spanish-speaking Guatemalan families choose not to send their children to CP is disappointing given the research on the benefits for English learners who attend DLI programs. Not only do the students benefit from all the advantages of bilingualism listed on the informational sheet in Appendix A., but research shows many other benefits for Spanish-speaking English learners as describe in Section 4, pp.13-14 above.

SECTION 9: Is the Per-Student Cost for Educating Students at the Elementary DLI Program Equivalent to that Which is Spent at Non-DLI Elementary Schools that do not have Specialized Programming?

The per-pupil costs were determined solely based on information received from PPS Finance. This section relies on information provided by PPS on April 25, 2022. A cost comparison was made by PPS Finance of per pupil spending based on costs of staffing. The costs of staffing for the DLI program are based on the costs of the teachers and aides. The costs for the traditional classrooms are based on teachers. A standardized cost of educators and aides was used.

A question was raised by the preparer of the financial information as to whether the aides in the DLI program are DLI aides or special education aides. The assumption made by PPS in preparing this information is that the DLI aides are not special education aides, however, the CP principal added, “many of our DLI aides serve as SPED group aides when there are individuals in the classroom with an IEP.”

Tables 24. Comparison of Per-Student Costs in Elementary Schools Based on Staffing

Program	# of student s	# of class rooms	Average per section	Teacher Cost	Teacher cost per section	Aide Cost	Cost per section with 6 DLI aides	Per pupil cost with 6 DLI aides
DLI Students	269	16	16.8125	\$1,701,280	\$6,324.46	*\$361,866	\$128,947	\$7,669.69
Traditional Students	1,007	56	17.98214	\$5,954,480	\$5,913.09	0	\$106,330	\$5,913.09

*The CP principal questions this figure, “How is this accurate? Aides do not make more than \$30,000 per year. If this was factored based on 6 DLI aides, it would not be more than \$180,000 at most.

Difference per pupil	\$1,756.60
Difference per section	\$22,616.63
Extended difference by number of DLI students	\$472,525.

Extended difference by number of DLI sections	\$361,866
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DISCUSSION AND RECOMMENDATIONS

In order to reliably draw conclusions from these figures, it must be determined whether any or all of the six DLI aides used to calculate costs for the DLI program are special education aides or aides used strictly for the DLI program. It is also important to note that this comparison relies solely on personnel costs. There are no costs attributed to Spanish language instructional materials or assessments in comparison to the costs of English materials at other schools.

Any questions or concerns regarding per-pupil calculations must be addressed directly to PPS Finance since CAL relied on PPS Finance to determine these costs.

SECTION 10: What Additional Costs of the DLI Program can be Attributed to Transportation?

Information about students who are transported by bus at the cost of PPS was provided by the transportation office in PPS. The results appear in Tables 25 and 26 below. Fifty-one students opt out of CP to attend the other elementary schools, including one student who is bussed to the charter school. Most students go to JP. Four of the students who opted out are identified special education students.

Table 25. Transportation costs related to families **opting out** of the CP Zone (PPS Transportation Office, 2/24/22)

Destination School	Number of students transported	Number of opt-out students who walk or are driven
JP	33 (of which 4 are sp. ed.)	1
LB	12 (of which 1 is sp ed.)	1
RS gen. ed students	5	
Princeton Charter	1	
Total students	51	2

Total cost of transportation for CP opt-out students: \$45,507.87

Table 26. Transportation costs related to families **opting in** to the CP Zone (PPS Transportation Office, 2/24/22)

School of Origin	Number of students transported	Number of opt-in students who walk or are driven
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JP	5	1
LB	4	
RS gen. ed students	5	1
Total students	14	2

Total cost of transportation for CP opt-in students: \$9,193.35

Total cost of transportation related to opt-in and opt-out for DLI program at CP: \$54,701.22

DISCUSSION AND RECOMMENDATIONS

The transportation figures indicate that the DLI program as a program of choice for families does not come without costs. These figures also indicate that there are a good number of students from the CP zone that choose to go to JP. It would be interesting to find out exactly how many of these students are Spanish-speakers and English learners.

This report does not include data/costs related to the transportation of other students in PPS for programmatic reasons that are not related to special education.

SECTION 11: Conclusion

In conclusion, the DLI programs in PPS provide many benefits to students. There is a solid foundation in place that has been built through hard work and experience, and there is undeniable dedication and passion for the program on the part of the DLI teachers and instructional aides at CP. The program also provides immense advantages to students who are able to learn a second language in their developing years in school. The next step for the district to contemplate the mission and vision of the program, who the program serves/should serve, and proceed to develop a district and community supported multi-year strategic plan reflective of the mission and vision,

Does the program serve a diverse group of students representing both advantaged families and not advantaged, Spanish-speaking families as many respondents believe was the aim at the start of the program? Do the DLI programs in PPS provide students, as suggested by numerous stakeholders, with an experience in which children are learning in a diverse setting in which there are children who come from Spanish language backgrounds who serve as “little leaders,” who are models of an assets-driven rather than a deficit-oriented perspective? The answer is: not to the extent the program could if the school district, school, and families were to prioritize informing Spanish-speaking families of the choice they have to send their children to a school in which their children can learn in a language they know while gaining English, while at the same

time, being provided with a school climate and culture in which Spanish is valued to the same high degree as English. With the influx of more Spanish home language families, the visibility of Spanish would take additional priority in the hallways of the school, would be spoken in all common areas, and instruction in Spanish would be better supported in all ways recommended in the *Guiding Principles* (Appendix C).

The program would derive great benefit from garnering the trust of Spanish-speaking families with English learner children. These parents should be informed of the immense benefits their children would experience by being able to learn in and maintain their first language while learning and achieving in English. This would also present an opportunity for English speaking children in the program to interact with more children who are Spanish speaking. At the same time, PPS would need to be clear-eyed in that the children of Spanish speakers in Princeton, mainly low-income, will give much, but they will also need much. They will need support from the district and the well-established and well-educated community to ensure that the students and their families are provided with social services and academic supports to succeed. If the school district assisted families at CP to actively recruit the Hispanic families into the school, treat the families with the respect they deserve, and ensure that the Spanish-speaking children receive the supports they need to excel, what an amazing model that would be for the English home language children in the school. Witnessing adults and their parents, quintessential role models, practicing cultural proficiency in these ways would provide the children at CP the ultimate lesson in cross-cultural understanding. What better way would the adult community provide their children with a model of sociocultural competence than by giving those less privileged among them a hand up while visibly honoring their language and culture?

SECTION 12: Limitations

CAL collected a wealth of information and opinions speaking with a wide variety of persons associated with the DLI programs in PPS. Because the scope of work of the contract as requested by PPS did not include a formal, site-visit review of instructional and language-use practices, this report does not include those aspects of the program in the report.

The evaluation does not include a review of data related to English learner (EL) academic and English language progress given that there are so few ELs in the program and the data are scant for the Pandemic years, but the English proficiency gains of ELs in DLI programs is a critical aspect of DLI evaluations.

There was no opportunity as hoped to speak with Spanish-speaking families who had opted out of attending CP and enrolling their children at JP. Instead, the family-liaison spoke on behalf of the families.

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survey of California elementary schools serving low-income and EL students. Mountain View, CA: EdSource.

Why consider Dual Language Immersion?

Research shows that Dual Language Immersion programs can produce the following benefits:

- **Enhanced Cognitive Skills**

Immersion students, due to the demands both conscious and unconscious of processing two languages, typically develop greater cognitive flexibility and demonstrate increased attention control, better memory, and superior problem solving skills while, at the same time, experiencing enhanced understanding of their primary language.

Bamford, K., & Mizokawa, D. (1991). Additive-bilingual immersion education: Cognitive and language development. *Language Learning*, 41(3), 413–429.

Maillat, D., & Serra, C. (2009). Immersion education and cognitive strategies: Can the obstacle be the advantage in a multilingual society? *International Journal of Multilingualism*, 6(2), 186–206.

- **Improved Academic Performance**

Immersion students perform as well as or better than non-immersion students on standardized tests of English and mathematics, even when these tests are administered in English.

Robinson, D. W. (1998). The cognitive, academic, and attitudinal benefits of early language learning. In M. Met (Ed.), *Critical issues in early second language learning: Building for our children's future* (pp. 37–56). Scott Foresman - Addison Wesley.

Swain, M., & Lapkin, S. (1982). Academic outcomes of immersion education. In M. Swain & S. Lapkin, *Evaluating bilingual education: A Canadian case study* (pp. 56–69). Clevedon, England: Multilingual Matters.

- **Minimizing of the Achievement Gap**

Partially as a result of the cognitive demands placed on students who learn content in two different languages, no other intervention model holds greater promise to minimize the achievement gap more effectively between high and low performing populations than dual language immersion.

Collier, W. and Thomas, G. (2012). *Dual language education for a transformed world* (pp.44-46). Albuquerque: Fuente Press.

Haj-Broussard, M.G. (2003). *Language, identity and the achievement gap: Comparing experiences of African-American students in a French immersion and a regular education context (Doctoral Dissertation)*. Louisiana State University and Agricultural and Mechanical College.

- **Higher Second Language Proficiency**

Immersion students achieve higher levels of second language proficiency than through any other language development model. By the end of their K-12 program, students possess bilingualism and bi-literacy.

Center for Applied Second Language Studies, (2011). *What levels of proficiency do immersion students achieve?* Eugene: CASLS.

Padilla, A., et. al., (2013). A Mandarin/English two-way immersion program: language proficiency and academic achievement. *Foreign Language Annals* 46 (4), pp. 661-679.

- **Enhanced Global Citizenship**

Immersion students are better prepared to collaborate and communicate across linguistic and political boundaries to solve problems as a result of the demands of their learning environments, and they evidence more positive attitudes toward other peoples and other cultures.

Howard, E. (2002). Two-way Immersion: A Key to Global Awareness. *Educational Leadership*, 60(2), 62–64.

Stewart, V. (2012). *A world-class education*. Alexandria: ASCD, pp. 136-141.

Appendix B: Strategies that Promote Language Equity (CAL professional development materials, 2018)

System-wide Alignment

- Classroom level (all teachers)
- School level (all staff)
- Community level (families, other stakeholders)

Language Use Practices

- Classrooms
 - Language policy adopted that elevates status of the partner language
 - Teachers and students embrace their roles as language models and language learners
 - Diverse dialects and types of language are explored and celebrated
 - Issues of language inequity, language status, and language loss are openly discussed and analyzed as part of the DL curriculum
- Hallways
 - Language policy adopted that elevates status of the partner language (greetings, polite phrases, idioms, etc.)
- Teachers' Lounge
 - Greetings, phrases, idioms, food items, etc.
- Cafeteria
 - Mix student groups heterogeneously
 - Language policy
- Playground
 - Reward use of partner language during recess
 - Teach recess games in the partner language

Physical School Environment

- Marquee
 - Information in both languages
 - Attention paid to if there is a favored side (more likely to be read)
 - Reviewed and edited for accuracy (vocabulary, grammar, spelling)
- School signage (in all public spaces)
 - Consistently posted in both program languages
 - Attention paid to font and font size, prominence, and positioning of the two program languages (which comes first?)
- Foyer and Front Office
 - Staff fluent in the partner language

- Forms and key information available in both languages
- Hallways
 - Student work displayed in both program languages
- Library
 - Adoption of a clear system for locating books in each program language
 - Equitable distribution of literacy resources in the two program languages

SCHOOL-WIDE COMMUNICATIONS

- Announcements
 - Conducted in both program languages (alternating basis)
 - Language learners (children and adults) participate (risk-free)
- Fliers and PTO communications
 - Consistently disseminated in both program languages
 - Distributed at the same time (no lag for translation)
 - Reviewed and edited for accuracy (vocabulary, grammar, spelling)
- Website
 - Information provided in both program languages
 - Culturally relevant information included for all stakeholders
 - Links provided to resources in both program languages for home support of student learning

Appendix C: Research on Successful Dual Language Program Implementation

Source: Howard, E. R., Lindholm-Leary, K. J., Rogers, D., Olague, N., Medina, J., Kennedy, B., Sugarman, J., & Christian, D. (2018). *Guiding principles for dual language education* (3rd ed.). Washington, DC: Center for Applied Linguistics

Program Structure: Research Background

Program structure is the organizational foundation of effective DL programs. Though many program structure variations can emerge across schools and systems, the authors of the *Guiding Principles* identified three research-based key principles and 15 key points for successful DL program implementation (Howard et al., 2018). School programs should have a clear vision and goals, with a focus on bilingualism, biliteracy, and sociocultural competence, as well as high academic expectations that are shared by all members of the community (de Jong, 2011; Genesee, Lindholm-Leary, Saunders, & Christian, 2006; Lindholm-Leary, 2001).

A focus on equity, including a positive, caring school environment that attends to the needs of linguistically, culturally, and socioeconomically diverse students, and the elevation of the languages and cultures of the students, is another critical feature of successful programs (Alanís & Rodríguez, 2008; de Jong, 2011; Gay, 2010; Genesee et al., 2006; U.S. Department of Education, 2012). Schools also need to cultivate effective leadership for DL programs, wherein leaders advocate for the program; carefully plan, implement, and monitor programs; and promote a sense of community and collaboration (Castellano, Stringfield, & Stone, 2002; Herman, Gates, Chavez-Herrerias, & Harris, 2016; Marzano, Waters, & McNulty, 2005).

Successful schools have a systematic approach to continuous planning and refinement that is aligned with program goals and detailed in a district-wide plan (National Academies of Sciences, Engineering, and Medicine, 2017; U.S. Department of Education, 2012; Williams et al., 2007). When designing and refining programs, leaders should consider program duration, language allocation, literacy instruction, and student demographics, among other potential factors. Research shows that, typically, programs should be at least six years in duration (Genesee et al., 2006; Umansky & Reardon, 2014); devote sufficient instructional time to the partner language—50% or more (Lindholm-Leary, 2016); and include literacy instruction in both languages (August & Shanahan, 2006; Genesee et al., 2006; Soltero-González et al., 2016).

Curriculum: Research Background

Successful DL programs have curricula with integrated language and content expectations (Dalton-Puffer, 2011; Fortune, Tedick, & Walker, 2008; Lyster, 2007) for all grade levels in both program languages (Lindholm-Leary, 2001; Montecel & Cortez, 2002), with clearly articulated

vertical and horizontal alignment (Center for Comprehensive School Reform and Improvement, 2009; Drake & Burns, 2004). Effective DL curricula are relevant and challenging, providing rich and well-supported opportunities for extended language use in both program languages through assets-based approaches to standards-based learning (Montecel & Cortez, 2002; National Academies, 2017). DL curricula should also take advantage of the benefits of cross-disciplinary approaches that engage students in project-based learning and connect learning across subject areas, as well as opportunities to integrate technology into learning experiences (National Academies, 2017). Finally, with sociocultural competence as a key goal of DL programs, the curriculum should reflect students' home languages and cultures and guide students toward positive views of both themselves and others (Feinauer & Howard, 2014; Phinney, 1993).

Instruction: Research Background

Effective instruction in the context of a dual language program has similar features to effective instruction in other settings with language learners (Marzano, 2003; O'Day, 2009). However, instruction in a dual language program is more complex given the need to coordinate and balance instruction in the two program languages, to purposefully separate languages while creating opportunities for connecting languages, and to integrate language and content instruction to support students with diverse language proficiency levels within a single classroom (Genesee & Lindholm-Leary, 2011). Instruction in DL settings should ensure that language input is made comprehensible for students at varying language proficiencies in the two program languages (Echevarría et al., 2017; Larsen-Freeman & Tedick, 2016); that language development is addressed explicitly in instruction (Lyster, 2007; Saunders, Goldenberg, & Marcelletti, 2013), including use of metalanguage (Schleppegrell, 2013) and opportunities to practice oral language skills (Lyster, 2007; Saunders & O'Brien, 2006; Schleppegrell, 2013); that literacy is taught in a meaningful way using research-based methods such as explicit instruction, scaffolding, differentiation, vocabulary instruction, along with regular opportunities to practice skills (August et al., 2014; Baker et al., 2014); and that translanguaging pedagogies are incorporated to facilitate and capitalize on cross-linguistic connections (García et al., 2016; Hopewell & Escamilla, 2015).

Assessment and Accountability: Research Background

Assessment and accountability in an era of high stakes standardized testing is an important and nuanced consideration for DL programs. While it is beneficial to use achievement data to monitor programs (Lindholm-Leary, Hargett, & Lambert, 2007), there are concerns about the appropriateness of assessments for use with English learners (Abedi & Gándara, 2006; Kopriva, 2008), and even for native English-speaking students enrolled in DL programs (Lindholm-Leary, 2012). Because of this, DL programs require multiple measures that are aligned with program goals and curriculum (Lindholm-Leary et al., 2007; Montecel & Cortez, 2002) in both languages for oral language (bilingualism) and literacy skills (biliteracy) for all students (Escamilla, Chávez, & Vigil, 2005; National Academies, 2017). Additionally, the analysis, interpretation,

and communication of student progress requires a clear understanding of research in language development and academic performance in the context of DL by schools and the communities they serve (Lindholm-Leary et al., 2007; National Academies, 2017).

Staff Quality and Professional Development: Research Background

Staff quality and professional development (PD) are important in any school context and the need for philosophically committed, culturally competent, pedagogically agile staff is heightened in DL settings (Howard & Sugarman, 2007; Lindholm-Leary, 2001; López, Scanlan, & Gundrum, 2013; Williams et al., 2007). In DL programs, a key factor is teachers' language abilities, with native or native-like proficiency needed for the languages in which they teach (Aquino-Sterling & Rodriguez-Valls, 2016; Montecel & Cortez, 2002). A common challenge to districts and schools is the shortage of qualified bilingual educators; to address this need, districts need to create a recruiting plan to identify potential new teachers through a variety of means, and a well-executed, collaborative recruiting process (Kennedy, 2013). Ongoing DLI-specific PD is a critical feature of successful DL programs. When staff lack critical knowledge regarding bilingual theory and practice, they risk making poor choices with regard to program structure, curriculum, and instructional strategies, all of which can impact student performance, reinforce negative stereotypes, and create misperceptions about the efficacy of DL instruction (Ballantyne et al., 2008;). PD aligned with program goals and focused on areas of particular pedagogical need for DL programs, such as language education pedagogy, biliteracy development, equity, and social justice, can help prepare staff to implement an effective DL program and meet the needs of their students (Ballantyne et al., 2008; Corallo & McDonald, 2002; Hamayan et al., 2013).

Family and Community: Research Background

DL programs seek to overcome traditional barriers to authentic and impactful family and community involvement, an important factor in students' academic success (Ferguson, 2008; Henderson & Mapp, 2002; National Academies, 2017). Research shows that families of linguistically and culturally diverse students tend to have high academic expectations for their children and a desire to be involved in their education (Glick & White, 2004; Lindholm-Leary, 2001). DL programs should welcome and encourage families' engagement, adopt an assets-based mindset, value the funds of knowledge their families and communities possess, respect and protect the cultural identities of their students and families, and work creatively to meet the needs of both the school and the families they serve (Ferguson, 2008; Gonzalez, Moll, & Amanti, 2005; National Academies, 2017). Effective DL programs are warm and welcoming environments that provide an authentic sense of belonging for all who enter.

Support and Resources: Research Background

Successful DL programs are supported through structures and policies established by district leadership, local boards of education, and states to promote, preserve, and protect the mission

and vision of their DL programs. Locally developed policies provide important clarity and integrate the program within existing systems, ultimately ensuring appropriate levels of district support and resources to DL programs in terms of funding, staffing, materials, teacher training, program structure, planning, and parent engagement (Genesee et al., 2006; Lindholm-Leary, 2001; Montecel & Cortez, 2002). Local policy should also include a language policy that outlines how languages will be used and instructed within the program to ensure that program goals and integrity are maintained and consistent (Field & Menken, 2015). At the school level, principals and others in leadership positions play a critical role in ensuring that the DL program is supported through a variety of means, including professional development, recruitment, funding, equitable allocation of resources, and program advocacy (Alanís & Rodriguez, 2008; Castellano, Stringfield, & Stone, 2002; Genesee et al., 2006; Herman, Gates, Chavez-Herrerias, & Harris, 2016; Kennedy, 2013; Marzano, Waters, & McNulty, 2005).

Note: the complete references for all of the citations in Appendix C can be found in the Reference Section of this report on pp. 33-40.