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A STUDY OF EFFECTIVE DUAL LANGUAGE PROGRAM MODELS FOR NON-NATIVE SPANISH SPEAKERS

Krystal Roberts¹⁾

¹⁾ Whitworth University, Spokane, United States
E-mail: kroberts21@my.whitworth.edu

Abstract. As the United States population becomes increasingly ethnically and linguistically diverse, more school districts, families, and students are beginning to recognize the need and value of bilingual education, specifically dual language programs, for both native and non-native Spanish speakers (Collier & Thomas, 2020). With dual language programs on the rise, it is important to consider which program model(s) most benefit the students within a particular program. The purpose of this explanatory sequential mixed methods study was to compare the effect of different dual language program models (including immersion programs) on primary-level students' Spanish and English language acquisition by the time students reach fourth grade. The study focused specifically on non-native Spanish speakers, utilizing both quantitative and qualitative data. Such data included Spanish and English literacy levels of students who had been in a dual language program from kindergarten through fourth grade and evidence from surveys and interviews of students and teachers. The study compared two schools, one with an 80:20 program model and one with a 50:50 program model. Overall, School 1's 80:20 dual language program model appeared to be more effective than School 2's 50:50 model in equally developing students' Spanish and English language acquisition. Teachers and students from both schools indicated room for growth in their respective programs.

Keywords: Dual language program model; non-native Spanish speaker; language acquisition

I. INTRODUCTION

The definition of bilingual education is teaching academic content through two different languages, rather than solely teaching students another language (Bilingual Education - What is the definition?). There are a variety of bilingual education program models and variations among these models (Collier & Thomas, 2020). Though the effectiveness and value of bilingual education is widely debated in the United States, it is not a new concept. The practice of bilingual education has been around for hundreds of years, with the first bilingual school dating back to the 1600s (Goldenberg & Wagner, 2015). As the U.S. population grows more diverse, there are now bilingual schools for a variety of languages.

Research shows there are immense cognitive, social, academic, and economic benefits to bilingualism for all types of learners, regardless of their native language (Goldenberg & Wagner, 2015). Furthermore, the research shows that bilingual education has significant positive effects for both native and non-native speakers of a target language, such as Spanish (Cole, 2015): Dual language bilingual education programs (DLBE) "promote an additive, enrichment-oriented model for the development of student bilingualism and biliteracy," are "associated with high

academic achievement for all students participating," and "can promote positive bilingual and academic identity construction and cross-cultural competence" (Henderson & Palmer, 2020, p. 1). However, there is little research comparing the effectiveness of different types of dual language programs, and even less research on the effects of different program models on the language acquisition of non-native Spanish speakers.

As the U.S. population becomes increasingly diverse and more school districts, families, and students recognize the need and value of dual language programs both for native and non-native Spanish speakers, it is important to consider which program model(s) would most benefit student second language acquisition. The Center for Applied Linguistics (CAL, 2016) defines dual language as

a program in which the language goals are full bilingualism and biliteracy in English and a partner language, students study language arts and other academic content (math, science, social studies, arts) in both languages over the course of the program, the partner language is used for at least 50% of instruction at all grades, and the program lasts at least 5 years (preferably K-12). (Glossary of Terms Related to Dual Language/Two Way Immersion [TWI] in the United States, para. 7)

When investigating the effectiveness of dual language program models, it is essential to consider students' academic and language proficiency achievement across grade levels. Collier and Thomas (1995, as cited in Colín Colorado, 2019, para. 3) state that "it may take children with no prior instruction or no support in native language development...at least five years to develop CALP" (Cognitive Academic Language Proficiency). It may not be until fourth or fifth grade that the positive effects of bilingual education become apparent in primary-level students.

There is some research regarding the effectiveness of 90:10, 80:20, and 50:50 dual language program models for populations with large native Spanish-speaking populations. However, there is little research available regarding effective dual language program models for non-native Spanish speakers. This is the research gap this study helps fill. This study compared two dual language programs, one with an 80:20 program model and one with a 50:50 model, and the effectiveness of each program in developing non-native Spanish speaking students Spanish and English literacy. This study's findings are worthy of consideration for schools with high non-native Spanish speaking student populations who already have a Spanish dual language program and are looking to evaluate the effectiveness of their program model, as well as schools who are interested in developing a new Spanish dual language program.

The study consisted of a mixed methods approach, integrating quantitative and qualitative data, which included Spanish and English literacy levels of fourth grade students from an 80:20 dual language program and a 50:50 program. Students had been in their respective programs since kindergarten. Additionally, evidence from surveys and interviews of students and teachers were used to yield a deeper understanding of the distinctions between the dual language program models and provide further insight as to the effectiveness of each program.

Research Questions

1. As measured by student literacy levels, how does the student population impact the effectiveness of a dual language program?
2. As measured by student literacy levels, which dual language program model is the most effective for non-native Spanish speakers in terms of Spanish and English language acquisition?
3. How does the perceived effect of dual language education on students' Spanish and English language acquisition compare to students' measured language acquisition as determined by student literacy levels?

II. CONCEPTUAL FRAMEWORK AND REVIEW OF CURRENT LITERATURE

A. Types of Dual Language Program Model

This study broadly defined a dual language program as an educational program in which teachers teach, and students learn, academic content through two languages. Therefore, this research considered language immersion programs a type of dual language program. One of the most significant differences among dual language program models is the

percentage of instruction in each language. At the primary level, there are three main types of instructional models, 90:10, 80:20, and 50:50 (Collier & Thomas, 2020). The type of dual language program model a school implements affects the sequence and emphasis teachers place on students' English and partner language literacy development, which can greatly impact students' language acquisition.

1) *The 90:10 model:* One of the most common dual language program models, the 90:10 model "begins with 90% of instruction in Spanish, or the [partner] language, in content-area subjects and 10% of instruction in English in the arts to all learners" (Santillana USA, n.d., as cited in Acosta et al., 2019, p. 5). In many schools that implement a 90:10 program model, the amount of English instruction increases each year so that by third to fifth grade, students are learning 50% of the time in English and 50% of the time in Spanish, across content areas (Cole, 2015). In this model, instruction in English helps students "develop oral language proficiency," as well as "some preliteracy" (Lindholm-Leary, 2012, as cited in Billy & Garríguez, 2019, p. 109). The 90:10 program model was originally tailored toward students who speak the partner language (e.g., Spanish, Acosta et al., 2019). Therefore, there is a heavier emphasis on Spanish in earlier grades, with a transition to equal emphasis of both English and Spanish later to fully support bilingualism and biliteracy.

2) *The 80:20 model:* The 80:20 model is like the 90:10 model. The main difference is that in an 80:20 model, instruction in kindergarten begins with students learning 80% of the time in Spanish and 20% of the time English (Shoreline Public Schools, n.d.). Just as with many 90:10 programs, the amount of time spent teaching and learning in Spanish and English evens out to 50:50 by the time students are in third to fifth grade (Shoreline Public Schools, n.d.).

3) *The 50:50 model:* One other common type of dual language program model is the 50:50 model. In this model, teaching and learning are equally divided between English and Spanish (Acosta et al., 2019; Billy & Garríguez, 2019; Cole, 2015). The 50:50 model generally promotes a "simultaneous literacy" model, developing literacy in the target language and English at the same time (Dual Language Immersion Planning Guide, n.d., 50:50 Model section). It is especially the aim of 50:50 program models to have 50% students who are native speakers of the partner language and 50% who are non-native partner language speakers to facilitate the language acquisition of both native and non-native speakers of either language (Neumann, 2020; Cole, 2015).

Although 90:10, 80:20, and 50:50 models differ in the amount of instructional time in each language, all three models share the goal of helping students develop as fully bilingual and biliterate individuals (Acosta et al., 2019; Cole, 2015; Shoreline Public Schools, n.d.). Additionally, each program model is subject to variations in how a school implements it. Some of variations include the amount of instructional time and language for each subject, the percentage of instruction in English and Spanish for each grade level, and whether one teacher teaches students in both

languages, or whether one teacher teaches students in Spanish and another teacher in English (Collier & Thomas, 2020). All these factors, as well as the integrity and fidelity with which a school/teachers implement the model, can impact a program's effectiveness (Billy & Garríguez, 2019; Henderson & Palmer, 2020).

B. Impact of Student Population on Dual Language Program Effectiveness

To achieve these goals of bilingualism, biliteracy, and biculturalism for all students, it is ideal to have 50% native and 50% non-native speakers of the partner language (Neumann, 2020; Cole, 2015). This helps children learn language with and from their peers, whether a 50:50, 90:10, or 80:20 model (Howard & Sugarman, 2009). Unfortunately, equal numbers of native and non-native partner language speakers are not always a reality because of a given school/district's student demographics.

Thankfully, an imbalance of native and non-native partner language speaking students does not mean that a school/district cannot successfully support a dual language program and its students' Spanish and English language acquisition. There is plenty of research, covering a wide variety of schools, districts, and dual language programs and models, that exhibits the positive effects of dual language programs for both native and non-native Spanish speakers. Collier & Thomas (2003) conducted research "in 23 school districts in 15 states" and analyzed "more than 2 million student records," which showed that dual-language programs can close the achievement gap" for native Spanish speakers and "provide a superior education" for non-native Spanish speakers (p. 5).

More recent studies, such as Cole's (2015) action research investigating a large North Texas school district's dual language program and Watzinger-Tharp et al.'s (2021) study of 224 Utah schools, have also shown the positive effects of dual language programs on students' academic achievement, oral language proficiency, and literacy. In Cole's (2015) study, there was a statistically significant difference in dual language program students' standardized State of Texas Standardized Assessment of Academic Readiness (STAAR) scores. The study revealed that students who were in one of the district's dual language programs, and who were considered English proficient by fifth grade, scored higher on STAAR reading and math assessments than students in English-only programs (Cole, 2015). Watzinger-Tharp et al.'s (2021) study, which focused on the partner language acquisition outcomes of students in dual language programs, found that both native and non-native Spanish speakers attained intermediate mid to high levels of English and Spanish oral language proficiency and literacy by fourth and fifth grade, extending to even higher levels by eighth or ninth grade (Watzinger-Tharp, 2021).

The research exemplifies that dual language programs can support a wide variety of students' academic, linguistic, and personal needs. One limitation of this research, however, is that it does not account for the differences in numbers of native Spanish speakers and non-native Spanish speakers

within a program and the effect that different student population demographics may have on the effectiveness of dual language programs and/or specific program models. A potential reason is the difficulty of identifying and defining "native" speakers, especially those of the partner language. This area of research warrants further investigation.

C. Effective Dual Language Program Models for Language Acquisition of Non-Native Spanish Speakers

In examining dual language program models and their effect on non-native Spanish speakers' Spanish and/or English language acquisition, a few different studies indicate that the 90:10 model has a significantly positive effect. Fortune & Tedick (2015) recently conducted a study of English-proficient students in a 90:10 model, in which students attained Intermediate High levels of oral proficiency as early as second grade (as cited in Watzinger-Tharp et al., 2021). Fortune & Tedick's (2015) findings align with the findings of other notable researchers, such as Lindholm-Leary, Genesee, Howard, and Lyster (as cited in Watzinger-Tharp et al., 2021). These studies indicate that students who participate in a 90:10, or similarly an 80:20 model are stronger in their partner language proficiency and "self-assess at higher levels" than students in 50:50 models (Watzinger-Tharp et al., 2021, p. 197). Thus, some research seems to suggest that a 90:10 or 80:20 dual language program model has a greater positive effect than a 50:50 model on non-native Spanish-speaking students' Spanish and English language acquisition.

However, there are a variety of limitations and contradictory research findings to consider. For example, few U.S. studies have investigated 50:50 dual language program models whose majority student population is non-native Spanish-speaking students (Watzinger-Tharp et al., 2021). Of the studies that have compared 90:10 and 50:50 program models, it is difficult to generalize the results because of small sample sizes and inconsistent variables across programs and their implementation (Watzinger-Tharp et al., 2021).

Nonetheless, some studies found significant positive impacts of 50:50 dual language program models on student language acquisition/proficiency. For example, Watzinger-Tharp et al. (2021) found that non-native partner language speakers who were enrolled in "well-designed," "uniformly implemented statewide" 50:50 dual language program models attained Intermediate Mid/High, or higher, ACTFL language proficiency levels by eighth or ninth grade (p. 213). Other comparative studies found insignificant differences between student outcomes in various program models (Watzinger-Tharp et al., 2021). The field of dual language research would benefit from more studies, such as this study, that examine the effect of different dual language program models on non-native Spanish-speaking students' language acquisition- keeping in mind confounding variables such as defining native language, varying literacy models and amounts of instructional time in either language, etc.

D. Summary

The original intent of many dual language program models was to aid native partner language speakers' English language development (Henderson & Palmer, 2020). Now, the focus of most dual language programs is to support both native and non-native partner language speakers' development in two languages, with the goal being proficiency in both (Acosta et al., 2019; Cole, 2015; Shoreline Public Schools, n.d.). The goal of such programs is to have 50% students who are native speakers of the partner language and 50% who are non-native partner language speakers to promote students' language development in both languages (Neumann, 2020; Cole, 2015). Unfortunately, this is not always a possibility.

It is crucial that schools and districts consider the demographic and linguistic makeup of their student and teacher populations and choose a dual language program model that fits accordingly. There is already considerable research regarding the effectiveness of various dual language program models for populations with large native Spanish-speaking populations. However, little research is available regarding which program model(s) are most effective for schools with majority non-native Spanish speakers. This is the research gap this study helps fill. This study's findings may benefit schools and districts with similar student populations.

III. METHODS

This study followed an explanatory sequential mixed methods design, which included an online survey that students completed during school hours, results from standardized reading assessments that each school administered to evaluate students' Spanish and English literacy, student responses to the question "Is there anything you would like to share about your experience in your school's dual language program?" and collected written responses to interview questions from teachers from each program. The student survey differentiated between native and non-native Spanish-speaking students, gauged students' level of confidence in their Spanish and English language abilities, and revealed students' perceived Spanish and English reading, writing, speaking, and listening proficiency. There was a one-to-one comparison of non-native Spanish-speaking students' survey and literacy assessment results and calculation of the percentage of students meeting or exceeding biliterate grade-level reading benchmarks. Teacher interview questions focused on teachers' thoughts regarding the effectiveness of their school's dual language program model, specifically the Spanish and English language acquisition of non-native Spanish speakers in the program.

The population of this study consisted of fourth-grade students in two public Washington State elementary school dual language programs chosen through purposive and cluster sampling. Both schools had a student population consisting of more than 50% non-native Spanish-speaking students. A "native speaker" was defined according to the language that students first learned and knew best, which

students self-proclaimed on a survey. The results of this study included students who self-proclaimed to have learned English or another language first and/or those who self-proclaimed to know English best. Additionally, students must have been in their respective program since kindergarten.

The study's results included 19 students from School 1 and 30 students from School 2, as well as interview data from two teachers from School 1 and two teachers from School 2 whose students participated in the study. School 1 employed an 80:20 dual language program model, with content allocations reflecting 80% of instruction in Spanish and 20% of instruction in English in kindergarten, transitioning to 50% of instruction in Spanish and 50% in English by fourth to fifth grade.

At the time of the study, School 1 was beginning the 17th year of its dual language program. School 2 employed a 50:50 model, with content allocations reflecting 50% of instruction in Spanish and 50% of instruction in English at all grade levels. At the time of the study, School 2 was in the 5th year of its program implementation, with fourth grade being the highest grade level.

IV. RESULTS AND DISCUSSION

A. Quantitative Survey Results

1) *As measured by student literacy levels, how does the student population impact the effectiveness of a dual language program?* Fig. 1 compares students' confidence with reading Spanish and English between School 1 and School 2. Fig. 2 compares students' self-proclaimed proficiency in reading Spanish and English. Fig. 3 compares School 1 and School 2 students' confidence with writing, speaking, and listening in Spanish and English. Fig. 4 compares students' self-proclaimed proficiency in writing, speaking, and listening in Spanish and English.

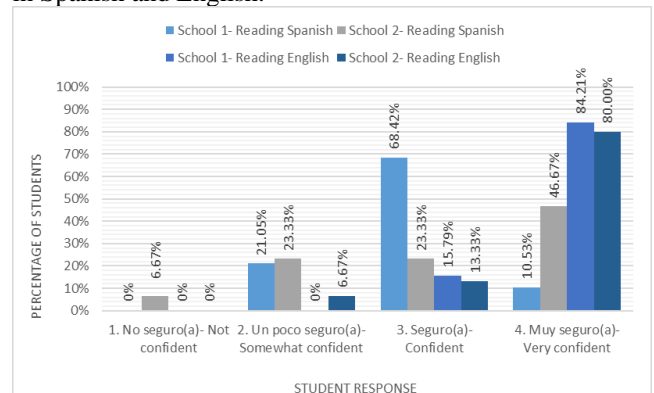


Fig. 1: School 1 and School 2 Comparison Student Degree of Confidence with Reading in Spanish and English

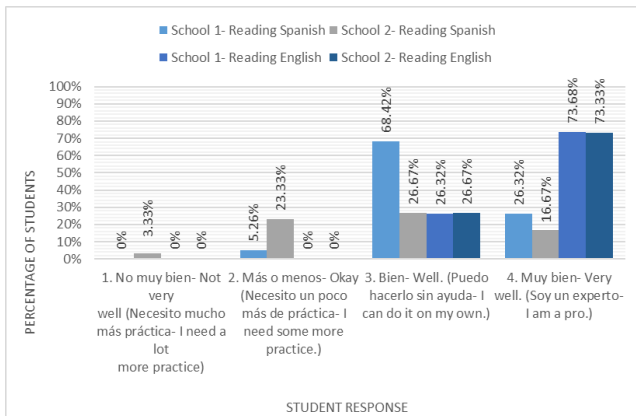


Fig. 2: School 1 and School 2 Comparison Degree of Student Self-Proclaimed Proficiency in Reading in Spanish and English

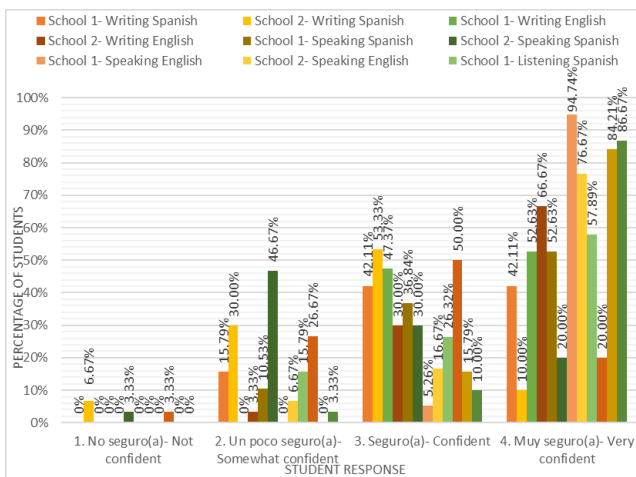


Fig. 3: School 1 and School 2 Comparison Student Degree of Confidence with Writing, Speaking, and Listening in Spanish and English

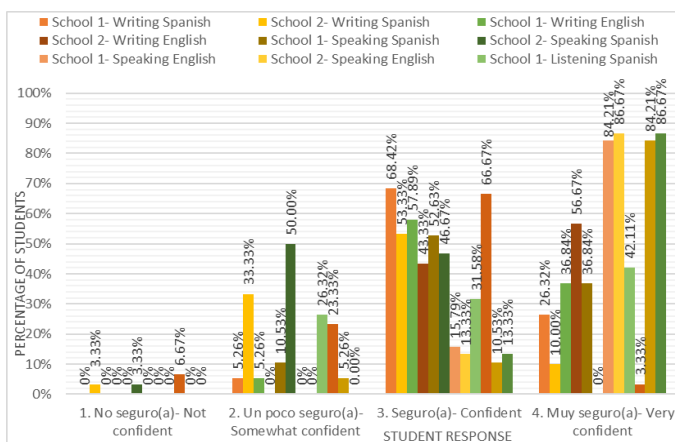


Fig. 4: School 1 and School 2 Comparison Degree of Student Self-Proclaimed Proficiency in Writing, Speaking, and Listening in Spanish and English

Survey questions regarding students' confidence and perceived language abilities followed a numerical rating scale (1-4). Students rated themselves on their confidence with reading, writing, speaking, and listening to Spanish and English, with 1 meaning "not confident" and 4 meaning "very confident." Both schools had comparatively high

percentages of students who were very confident in their English reading abilities (a difference of 4.21%). Additionally, as the percentages show in Fig. 1, students from both schools were generally more confident with reading English than with reading Spanish. In terms of students' Spanish reading confidence, School 1 had 21.75% more students who reported being "confident" with reading Spanish than School 2 and School 2 had 12.8% more students who said they were "very confident" with reading Spanish than School 1.

In addition to rating their confidence with reading Spanish and English, students also rated how well they read in Spanish and English (i.e., their perceived reading proficiency), with 1 meaning "not very well" and 4 meaning "very well." Students in both schools rated their English reading ability higher than their Spanish reading ability. As Fig. 2 demonstrates, almost the same percentages of students from each school claimed to read in English either "very well" or "well." No students from either school rated their English reading ability as anything below a score of 3 ("well"). The major differences between students' perceived reading proficiencies were for Spanish, with School 1's students generally reporting higher Spanish reading proficiency levels than students from School 2.

This investigation focused on students' Spanish and English reading proficiency because studies show that strong literacy skills are linked to higher oral proficiency levels (Erds et al. (2010); Geva (2006), as cited in Fortune & Tedick, 2015). These studies imply that reading proficiency can be a strong indicator of a person's ability to both understand and express language, and similarly, of the effectiveness of a school's dual language program in promoting students' Spanish and English language acquisition. Nonetheless, language acquisition does include all four elements of reading, writing, speaking, and listening. In addition to reading, students rated their confidence and perceived proficiency with writing, speaking, and listening to Spanish and English to provide further insight into the effectiveness of each school's dual language program in promoting all aspects of students' language acquisition.

As can be seen in Fig. 3 and Fig. 4, there were notable differences in students' confidence and perceived proficiencies with writing, speaking, and listening to Spanish and English between School 1 and School 2. Students from School 1 were generally more confident in their ability to write in Spanish than students from School 2, while students from School 2 were more confident and in their English writing abilities than students from School 1. Students from both School 1 and School 2 were more confident, and claimed to more proficient, in speaking English than Spanish. All students claimed to speak English either "very well" or "well." However, students from School 2 were more confident in their Spanish-speaking abilities and claimed higher Spanish-speaking proficiency levels than students from School 1. Regarding students' confidence and ability to listen and understand Spanish and English, students from both schools reported being more confident and more proficient in English than Spanish. Nonetheless, School 1

students overall rated their Spanish listening and comprehension higher than School 2 students.

In noting some general trends among students' confidence and perceived language proficiency levels, students from both schools were most confident and rated themselves highest in the areas of reading, speaking, and understanding English when it is spoken. In terms of Spanish language abilities, students from School 1 were most confident with reading, writing, and speaking Spanish and claimed to be most proficient in reading and writing in Spanish. Students from School 2 were most confident with writing, listening, and reading in Spanish and claimed to be the most proficient in listening, reading, and writing in Spanish.

B. Literacy Assessment Results

2) *As measured by student literacy levels, which dual language program model is the most effective in terms of Spanish and English language acquisition for non-native Spanish speakers?* Fig. 5 compares the percentages of students from School 1 and School 2 who were meeting or exceeding biliterate grade-level reading benchmarks for Spanish and English at the time of the study. As the data in Fig. 5 shows, the number and percentage of School 1's students who met or exceeded biliterate grade-level reading benchmarks was the same for Spanish and English, roughly two-thirds of the study's participants. For School 2, there was a 23.57% discrepancy between the number of students meeting Spanish versus English biliterate grade-level reading benchmarks, with more students meeting English benchmarks than Spanish. In comparing School 1 and School 2, 16.73% more students from School 1 met Spanish biliterate grade-level reading benchmarks than students from School 2; however, 6.84% more students from School 2 met English biliterate grade-level reading benchmarks than School 1 students.

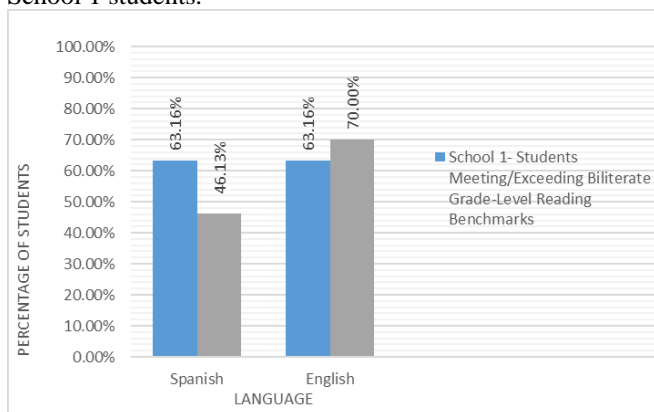


Fig. 5: School 1 and School 2 Comparison Students Meeting or Exceeding Biliterate Grade-Level Reading Benchmarks for Spanish and English

C. One-to-One Comparison Quantitative Survey and Literacy Assessment Results: Trends

3) *How does the perceived effect of dual language education on students' Spanish and English language acquisition compare to students' measured language acquisition as determined by student literacy levels?* Fig. 6 compares the percentages of students whose confidence and perceived reading ability levels in Spanish and English

corresponded to their measured reading ability levels according to biliterate grade-level reading benchmarks for School 1 and School 2. The percentage of students whose confidence and perceived ability levels in Spanish and English corresponded to their measured reading ability levels were generally higher for School 2 than for School 1 and higher for English than for Spanish. Additionally, the percentage of School 2's students whose perceived ability levels corresponded to their measured ability levels was higher than the correspondence between students' confidence and ability levels. For School 1, there was little variance between correspondences.

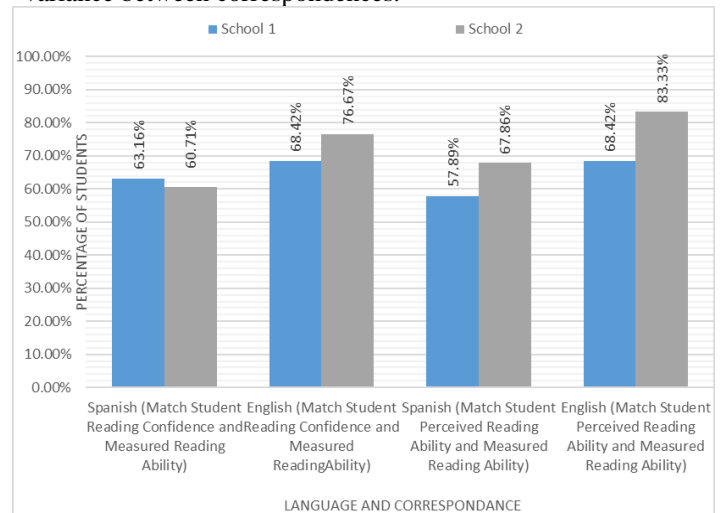


Fig. 6: School 1 and School 2 Comparison Correspondence Student Degree of Confidence and Self-Proclaimed Proficiency with Measured Reading Ability According to Biliterate Grade-Level Benchmarks in Spanish and English

D. Student and Staff Open-ended Responses and Emerging Themes

The qualitative portion of this study included student and staff responses to open-ended survey and interview questions. In the survey student participants completed, there was an open-ended question at the end for students to supply additional information they wanted the researcher to know about their school's dual language program. Additionally, teachers from each school completed written responses to questions requesting input on the effectiveness of their school's dual language program model. Four major themes emerged from both student and staff responses.

1) *Dual language: Benefits and Challenges:* The main recurring theme that emerged from student and staff responses was that dual language is beneficial but can also be difficult and challenging. Students from both School 1 and School 2 described their schools' dual language programs as "good," "fun," "useful," and "helpful." Students described enjoying learning two languages because it allowed them to communicate with more people, connect with those who only understand Spanish, and could help them go to a good college and get a well-paying job. Teachers similarly described their experiences with teaching and working in their dual language program as "good" and beneficial because of how bilingual education grows

students' brains, encourages and inspires students to be globally minded, and allows students to connect with others from around the world.

Students and teachers also described some of the challenges that came with learning and teaching in their dual language program. A student from School 1 said they enjoyed being in the school's program but that it could also be "hard at times." A student from School 2 stated that their school's program was "fun but challenging." Teachers from School 1 and School 2 alluded to the difficulties of balancing Spanish and English literacy instruction and the need to augment efforts in Spanish and/or English instruction. Teachers from School 2 discussed time constraint difficulties due to their 50:50 model and difficulties with students switching classes and teachers halfway through the day, as well as the need for more collaborative planning time, training, and resources for teachers in the program. Some of challenges School 2 teachers mentioned included having to integrate district, school, and other program requirements.

2) *Love of Language Learning and Student Bilingual and Biliterate Growth*: The second theme from student and teacher responses was the love and care that students and staff have for language learning and helping students grow as bilingual and biliterate individuals. Multiple students from School 1 and School 2 discussed loving learning and speaking two languages, especially Spanish, as well as learning math, writing, and other content areas through Spanish and/or English. Teachers from School 1 and School 2 listed encouraging and aiding students' growth as bilingual and biliterate individuals as one of their favorite parts of teaching/working in a dual language program. Teachers from School 1 discussed the joy of seeing students grow in both their Spanish and English language abilities and their ability to transfer skills learned in one language to the other. Teachers from School 2 described how their students enjoyed going to school and liked their teachers and how, for teachers, satisfaction came from growing students' brains through exposure to language and a variety of global perspectives.

3) *Need for Increased Focus On/Success with Foundational Literacy Skills*: A third theme from student and staff responses was the need for an increased focus on foundational literacy skills. For School 1, students and staff identified room for growth in students' foundational English literacy skills and for School 2, the area of growth was for students' foundational Spanish literacy skills. Although students and teachers from both schools acknowledged a range in students' abilities regarding their reading, writing, speaking, and listening skills in Spanish and English, students and teachers from School 1 indicated a general need to focus on improving students' English language skills, specifically students' phonics and writing skills. Students and teachers from School 2 similarly noted a need in their program to improve students' literacy skills, but for Spanish rather than for English. A few obstacles to improving students' Spanish literacy that teachers from School 2 mentioned included a lack of quality Spanish literacy curriculum and assessments to gauge and track

student Spanish language progress, the need for more time with groups of students within a given school day, more training, more time for collaboration, and shared resources among grade levels and teachers within the program.

4) *Increased Development of Students' Spanish-Speaking Skills*: One other area of growth for each school's dual language program that surfaced was students' Spanish-speaking skills. Students from both schools reported enjoying speaking Spanish but also indicated a desire to improve their Spanish-speaking abilities. Likewise, teachers from both programs admitted that while they highly encouraged students to speak as much Spanish as possible inside and outside of school, most students spoke little to no Spanish outside of school. School 1 staff were, however, more confident in their students' Spanish-speaking abilities than teachers from School 2.

5) *Additional considerations*: Some additional considerations reported by staff that could pertain to the overall effectiveness of each school's dual language program included daily time and content allocations, teachers' experiences and backgrounds with dual language, the longevity of each program, and the fidelity with which each school implemented its dual language program model.

In School 1's 80:20 program, beginning in kindergarten, students received 80% of instruction in Spanish and 20% in English. Students in younger grades switched teachers only for English Language Development (composed of English language literacy, science, and specials). By the time students reached fourth and fifth grade, the amount of instruction in Spanish and English evened out to of 50% instruction in Spanish and 50% of instruction in English. School 1 had two fourth-grade teachers, one teacher that instructed in Spanish and another teacher that instructed in English. Students' school day was split evenly between Spanish with one teacher and English with the other teacher. Each teacher was responsible for different aspects of the program's content allocation. Spanish teaching included mathematics and some reading and writing, and English instruction included social studies and some reading and writing. Science was shared between both languages, along with literacy standards.

The fourth-grade Spanish teacher from School 1 was a native Spanish speaker who had 10 years of teaching experience in bilingual and dual language programs at the time of the study. The fourth-grade English teacher from School 1 was not a native Spanish speaker but had a minor in Spanish, an endorsement for teaching English Language Learners, higher education, and National Board Certification.

School 1's dual language program was beginning its 17th year at the time of the study and had been the original dual language program in its district. The district had since expanded dual language programs to all but one of its elementary schools. While acknowledging the need to improve English literacy instruction, the teachers at School 1 believed that their 80:20 program was effective in developing students' Spanish and English reading, writing, and speaking skills, believed that the 80:20 model was the most effective dual language program model, and wanted to

expand their program to serve the whole school rather than just select classes per grade level.

The staff at School 1 claimed to implement their 80:20 program model with fidelity, sticking to the language allocation for each teacher and grade and only using the language of instruction, unless students absolutely needed translation of a word for meaning. Teachers in the program employed “language partners” (student peers to support one another when not instructed in their native language) to assist with strict adherence to language and content allocations.

In School 2’s 50:50 program, students in all grades received 50% of instruction in Spanish and 50% of instruction in English. As with School 1, School 2 also had two fourth-grade teachers, one teacher that instructed in Spanish and another teacher that instructed in English. Similarly, students’ school day was split evenly between 50% in Spanish with one teacher and 50% in English with the other teacher and each teacher was responsible for different aspects of the program’s content allocation. Spanish instruction included mathematics, Spanish language arts, and social-emotional learning and English instruction included a calendar-based math time, social studies, English language arts, and social-emotional learning. Science was taught mostly in Spanish by a specialist, with some English.

Neither of the fourth-grade teachers from School 2 were native Spanish speakers, though both teachers majored in Spanish in college, had experience visiting, studying, living, and/or teaching in native Spanish-speaking countries, and had prior volunteer experience working in dual language programs. The Spanish teacher was a first-year teacher; the English teacher had taught for one year in the school’s dual language program and had prior teaching experience outside of dual language.

School 2 was in the 5th year of its dual language program implementation at the time of the study and was the only school with a dual language program in the district/area. The school’s program started with two kindergarten classes and was adding one grade level each year, with the goal being to expand the program to K-8. The teachers at School 2 believed that their 50:50 program model was effective in developing students’ English reading, writing, speaking, and listening skills and students’ Spanish listening skills but did not think that the program was effective in developing students’ Spanish reading, writing, and speaking skills. One teacher stated that the program worked well for students who picked up easily on reading and writing in their native language, which was English for the program’s majority non-native Spanish-speaking student population but could be difficult for those students who struggled with reading, writing, and other foundational language skills in either language.

School 2 teachers claimed to mostly implement their 50:50 program model with fidelity. At the time of the study, the Spanish teacher spoke Spanish to students approximately 80% of the time, rather than 100%, due to students’ Spanish listening comprehension skills requiring English translation for some content instruction. The English teacher instructed

students completely in English but gave some simple classroom instructions in Spanish to bridge between the two languages and reinforce students’ Spanish comprehension.

Discussion

The results of this study mostly aligned with the findings of previous studies, such as those of Lindholm-Leary, Genesee, Howard, and Lyster (as cited in Watzinger-Tharp et al., 2021) and Lindholm-Leary & Howard (2008, as cited in Acosta et al., 2019). Previous studies indicate that students who participate in a 90:10, or similarly an 80:20, model “with intensive partner language exposure in early grades” are stronger in their partner language proficiency and “self-assess at higher levels” than students in 50:50 models (Watzinger-Tharp et al., 2021, p. 197). Students from School 1’s 80:20 model did self-assess at higher levels and demonstrated higher proficiency in their Spanish reading abilities than students from School 1’s 50:50 program model. Moreover, Billy & Garríguez (2019) note that when it comes to “both languages for everyone” literacy models, employed in many 50:50 dual language programs, mastery of both English and the partner language does not always occur. This was the case with students from School 2’s 50:50 program, as most students demonstrated mastery of English, but not Spanish, literacy skills.

One aspect in which the results of this study deviated from previous findings was regarding the English language abilities of students from School 1’s 80:20 program model. Lindholm-Leary (2012, as cited in Acosta et al., 2019) found that students participating in 90:10 and/or 80:20 program models typically show the same or higher English reading, writing, and speaking proficiency levels compared to students in 50:50 programs or English-only education. However, as the results of this study show, students from School 1’s 80:20 program model did not demonstrate English reading proficiency levels as high as students from School 2.

V. CONCLUSIONS, LIMITATIONS AND ALTERNATIVE INTERPRETATIONS, AND IMPLICATIONS

Overall, School 1’s 80:20 dual language program model appeared to be more effective than School 2’s 50:50 model in equally developing students’ Spanish and English language acquisition. Nonetheless, teachers and students from both schools indicated room for growth in their respective programs. School 1 wanted to improve its’ focus on developing students’ English language skills, and School 2 wanted to improve its students’ Spanish literacy skills. Both schools hoped to increase the frequency with which students spoke Spanish outside of school. Teachers from School 2 also expressed a desire to rework their 50:50 program model and/or possibly implement a different model that would better support their students’ Spanish language development and maximize instructional time.

It is important to acknowledge some of the variables that could have impacted this study’s results. Some factors include the longevity of each school’s dual language program, teacher and staff experiences and backgrounds,

school, district, and staff resources, daily time and content allocations, and the fidelity with which each program implemented its model. The overall better performance and higher self-ratings of School 1's students in Spanish literacy could have been related to a variety of factors that impacted the program's effectiveness but were not directly tied to the school's 80:20 program model, such as more experienced teachers, higher quality resources, program fidelity, higher quality administration and/or district support, etc. Additionally, the type of testing each school used to measure students' literacy, the community in which students lived, students' backgrounds and mindsets towards school, language learning, and participation in this study, and other confounding variables could explain some of the differences in students' reported language proficiencies and survey results. It is also important to note the study's limited sample size and the reality that contradictions exist within the greater field of bilingual education research regarding the effect of 90:10, 80:20, and 50:50 dual language program models on non-native Spanish-speaking students' Spanish and English language acquisition.

For both schools that participated in this study, the study's findings informed stakeholders about the general effectiveness of their program in developing its non-native Spanish-speaking students' Spanish and English language acquisition and provided insight into strengths and areas of growth for each program. Furthermore, the study's findings are of value to other public schools with non-native Spanish-speaking populations as well, as such schools and districts can use the information gleaned from the study to help determine which dual language program model may best promote their non-native Spanish speaking students' Spanish and English language acquisition.

The field of dual language research would greatly benefit from more studies regarding the effect of 80:20, 50:50, and 90:10 dual language program models on non-native Spanish-speaking students' Spanish and English language acquisition given the limitations of present research, limited sample sizes, context-specific studies, and confounding variables.

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