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Professional Learning for ESL Teachers: A Randomized Controlled Trial to Examine the Impact on Instruction, Collaboration, and Cultural Wealth

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Abstract: Using a randomized controlled trial, we examined the impact of a teacher professional learning (PL) program on English as a Second Language (ESL) teachers' use of evidence-based instructional strategies for multilingual learners, collaboration with classroom teachers, and incorporation of Latino multilingual learners' cultural wealth into their classrooms. The analyses included 29 ESL teachers from 29 elementary schools in three school districts. The teachers completed pre-post surveys, and trained observers rated classroom instruction and cultural wealth for two cohorts of teachers in the yearlong program. The results showed that the PL program had a significant effect on the ESL teachers' use of evidence-based instructional strategies. We also found a significant effect on the ESL teachers' collaboration processes, including their use of an intentional framework for collaboration and their alignment with classroom teachers' instruction. We did not find significant differences between the PL group and the control group on the ESL teachers' incorporation of cultural wealth in their classroom environment or on the reported frequency of their collaboration.

Keywords: multilingual learner; English as a second language teacher; professional learning; randomized controlled trial; collaboration; cultural wealth; literacy instruction



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1. Introduction

English as a Second Language (ESL) teachers are central to the success of multilingual learners (MLs) as they learn both new content and English. Effective collaboration between ESL and general classroom teachers can help bridge academic content and English language development and promote success for multilingual learners [1,2], often also referred to as *English learners*, *English language learners*, *emergent bilinguals*, or *dual language learners* in the United States. Teacher collaboration can range from informal to structured and intentional [3–5], and there is increasing evidence that utilizing a “community of practice” instructional approach [6] increases educational outcomes for MLs. Communities of practice allow ESL and general classroom teachers to step out of isolated, siloed approaches and into more interactive and collaborative approaches for teaching and learning [1]. This collaboration may be particularly beneficial for young MLs due to the interdependence of oral language and literacy development [7,8]. Professional learning that supports teachers in aligning both content and instructional strategies across the ESL and general classroom settings has the potential to support the development of multilingual learners' language and literacy skills [9].

Therefore, the goal of the current study was to examine the impact of a teacher professional learning program on ESL teachers' practices, including the following: (a) the use of evidence-based instructional strategies for multilingual learners, (b) collaboration with general classroom teachers, and (c) the incorporation of Latino multilingual learners' cultural wealth into their classroom environments.

2. Theoretical Frameworks

The professional learning (PL) program in the current study draws upon several theoretical frameworks to support effective teacher learning, such as effective professional development [10], situated learning and scaffolding [11,12], implementation science and adult learning [13–15] and culturally responsive teaching (CRT) [16,17].

The PL program design aligns with Desimone's characterization of effective professional learning [10]. It emphasizes content knowledge specific to supporting MLs, incorporates active learning strategies, ensures coherence across sessions, and provides a sustained duration for learning. Additionally, the program fosters collective participation with school team colleagues, facilitating collaboration and knowledge sharing.

The program also aligns with situated learning theory [11], which emphasizes the importance of contextualizing learning within real-world applications, further supported by scaffolding teacher learning [12]. By explicitly linking professional learning to classroom practices through implementation coaching, collaboration activities, and application opportunities, the program facilitates the transfer of new knowledge and skills to real-world teaching practice.

The program's structure is informed by implementation science [14] and adult learning theories [13,15,18]. These frameworks highlight the importance of ongoing, site-based coaching. The PL program incorporates workshops with implementation coaching, collaboration opportunities, and application activities, all designed as "competency drivers" [19]. This approach aligns with Risko et al.'s findings that "learning by doing" through intensive training programs leads to improved teacher knowledge, beliefs, and practices compared to programs solely focused on theoretical knowledge [20].

Finally, the program is grounded in the framework of CRT for MLs [17]. Expanding on Ladson-Billings' concept of culturally relevant pedagogy [16], Gay defines CRT as utilizing students' cultural knowledge and prior experiences to make instruction more effective and relevant [21]. The PL program encourages instructional design that acknowledges students' cultures as assets and leverages their existing knowledge base to facilitate new learning [22]. A recognition of the array of assets inherent within culturally and linguistically diverse communities is referred to as cultural wealth [23]. The cultural wealth framework is designed to challenge deficit perspectives prevalent in educational settings by centering the strengths and knowledge multilingual students bring rather than focusing on their perceived shortcomings. This approach is particularly crucial for MLs who are often taught by educators from different cultural and linguistic backgrounds who may inadvertently center their own lived experiences over those of their students [24]. Teachers can bridge the classroom content with students' funds of knowledge and reveal a shared understanding, across contexts, in the value of students' personal life experiences, thereby increasing the potential of positive student outcomes [25,26].

3. The Role of ESL Teachers in Elementary Schools

The Civil Rights Division of the United States Department of Justice in coordination with the Office of Civil Rights within the U.S. Department of Education have issued joint guidance regarding the education of multilingual learners. This guidance broadly addresses the identification and assessment of potential MLs and the provision of language assistance programs. Rather than specifying strict parameters, the guidelines allow school districts autonomy, deciding among language support programs that are "educationally sound in theory and effective in practice" [27] (p. 1). Similarly, districts are asked to evaluate

their own programs using student performance data and to make timely modifications as needed [27] (p. 4).

This broad guidance results in significant variation in the types of language assistance programs across and even within states in the United States. There are three primary models for English language development (ELD) and countless variations of these models, which determine the role of the ESL teacher: stand-alone (formerly pull-out), integrated (formerly push-in), and coteaching [1,3]. In the stand-alone model, the ESL teacher provides English language development instruction via a specially designed curriculum to a small group of students, typically in a setting outside of the grade-level classroom [1,3]. In the integrated model, the ESL teacher goes into the general classroom and provides English language development instruction, often through learning centers; this instruction may or may not be aligned with what the classroom teacher is currently teaching [1,3]. In the coteaching model, the ESL and classroom teacher work collaboratively to provide English language development instruction to the English learners through the content instruction [3,28].

There is a general lack of consensus around the most effective approach to English language development, and as such, the decision of program models is largely left to local school districts [3]. In Bell and Baecher's survey of 72 ESL teachers and in their 2017 study of 175 MLs and a national database of ESL teacher surveys, they reported benefits and challenges of each program model that included some of the following issues: stand-alone ELD models helped to provide targeted instruction to small groups, where students felt freer, and granted ESL teachers greater autonomy [3]. However, students missed content instruction and experienced invalidation and stigmatization.

With integrated ELD programs, students benefited from more content instruction with native English-speaking peer language models, and teachers benefited from learning more content and better aligning instruction. Challenges in the integrated model include content being taught too quickly for newer MLs and ESL teachers not knowing what to plan for and/or having their expertise overlooked and invalidated.

With the coteaching model, students benefited from instruction which targeted language and content goals and from being included in the mainstream curriculum. Challenges were only teacher-specific, related to logistics and interrelationships. Despite reporting tremendous student benefits for integrated and coteaching models, some teacher perceptions regarding these models reveal a lack of enthusiasm. In Whiting's study of seventy-one ESL teachers' perceptions of program models, there was an overwhelmingly negative response towards push-in or coteaching, stemming primarily from collaborative struggles between the classroom teacher and ESL teacher [29]. Regardless of the ESL teaching model employed, some form of collaboration is often expected [3], and the systemic barriers to effective collaboration inhibit the implementation of models which reveal greater student benefit [28]. This collaboration is essential as the number of MLs in U.S. schools continues to increase, especially while classroom teachers report a lack of preparedness to instruct their MLs [30,31].

4. ESL Teachers and Early Literacy Instruction

Collaboration between ESL and classroom teachers may be especially important for young MLs, as a growing body of research emphasizes the interdependence between oral language and literacy development [7,8]. While strong oral language skills provide a foundation for transitioning to literacy [32], the relationship appears to be reciprocal, with advancements in each domain facilitating growth in the other. This interconnectedness presents a unique challenge for ESL educators who often prioritize fostering new language development (i.e., English development) over explicit literacy instruction, potentially due to greater instructional autonomy and flexibility compared to their mainstream counterparts who must adhere to core grade-level literacy curricula. Although national standards from professional organizations advocate for integrated language and literacy instruction [33], a mismatch may exist between these guidelines and state-mandated ESL teacher preparation programs [34]. This mismatch can lead to an unintended division of labor, with ESL

teachers focusing on oral language development and general classroom teachers solely on literacy skills, often aligned with standardized assessments [35]. Unfortunately, such compartmentalization often occurs separate from ESL and classroom teachers' pedagogical approaches, potentially hindering MLs' overall language and literacy development.

Instruction that is aligned across the general classroom and ESL settings can support MLs' oral language development and early literacy skills. Aligned with key research, the IES Practice Guide on teaching academic content and literacy to multilingual learners [36] emphasizes the importance of explicit vocabulary instruction and intentional oral language development for MLs. A key recommendation focuses on intensive vocabulary instruction, targeting a curated set of academic words across multiple lessons. This approach, supported by evidence in the Practice Guide [36], leverages academic texts for keyword selection and incorporates multimodal activities for explicit instruction. Examples include using L1/L2 cognates to facilitate cross-linguistic transfer [37,38] or employing graphic organizers [39] to enhance vocabulary and concept comprehension.

Another well-supported recommendation from the same Practice Guide [36] advocates integrating intentional oral and written language development with content-area instruction. This framework proposes integrating language development through the following various strategies:

- Strategic use of instructional tools: This includes videos, graphic organizers, and realia to enhance understanding.
- Explicit vocabulary instruction: This focuses on content-specific and general academic vocabulary [40].
- Regular small group discussions: Discussions should incorporate appropriate scaffolds like language frames [41] to support participation.
- Opportunities for written expression: Activities should allow MLs to extend their learning through writing.

The integrated development of language acquisition and content knowledge has examples in science education facilitated by effective professional development [42] and cross-disciplinary teams that include content specialists and language specialists to support MLs' science learning [43]. It is essential to consider ESL teachers' roles and their collaborative partnerships with classroom teachers, especially in literacy [44].

5. Collaboration between ESL and Classroom Teachers

Given the importance of integrating language development and academic content, collaboration has become more central to the role of ESL teachers [3,31,45]. ESL teachers, however, report limited administrative support and a lack of time for collaboration with other educators [3]. In Bell and Baecher's study with over seventy ESL teachers, they found that collaboration was overwhelmingly *mostly informal* to *somewhat informal* regardless of the ESL program model [3]. Additionally, collaboration was mostly used (87%) "when a problem needed to be resolved" [3] (p. 502).

The establishment of a consistent routine is vital to successful collaboration [45], yet such a routine is often difficult to achieve due to time and schedule constraints [5]. As such, it is essential that school administrators support collaborative practices and help mitigate constraints [4,5,28]. Additional barriers to collaboration include a lack of institutional support, a lack of preparation for collaborative teaching, a perceived uneven status across teachers, a lack of physical space and resources, differing mandated curricula, and insufficient time [1,3,29,46].

Further complicating collaboration are beliefs held by ESL teachers regarding classroom teachers. Bell and Baecher's study with 72 K-12 ESL teachers revealed that more than half of the ESL teachers believed classroom teachers did not want to collaborate [3]. These sometimes accurate and sometimes inaccurate beliefs impact the working relationships of educators. This is why time to develop "shared beliefs and values" through a collaborative relationship is significant for developing a more productive and coherent approach to aligned instruction, which is subsequently sustained by ESL and classroom teachers [2] (p. 60).

The impact of teacher collaboration on student outcomes and achievement is still in need of greater evaluation, whereas the perceived impact on instruction as viewed through teachers' perspectives is more well-established [45]. For example, Premier and Parr conducted a qualitative case study of eleven educators who employed a community of practice approach to instruction of MLs in Australia [2]. They found that there were high levels of support for teachers to facilitate collaboration in classroom instruction and professional learning, which resulted in "positive and rewarding experience[s]" for educators and students [2] (p. 66). The world's largest professional organization for ESL teachers (TESOL International) similarly calls for administrators to support these collaborative communities of practice "by creating a climate of respect for all staff, especially valuing the role of the ESL/ELD and bilingual specialists in the school" [47] (p. 88), who have been historically undervalued [3,45,46].

6. Professional Learning Program Components

The PL program examined in this study has three key components based on the theoretical and research foundations described above: evidence-based instructional strategies for supporting MLs; structured collaboration between ESL and classroom teachers; and a focus on incorporating Latino students' cultural wealth in the classroom. Teachers attended the program as a team; the ESL teacher attended along with either kindergarten or first-grade teachers from the same school. Workshops were provided in four full-day sessions, two in the fall and two in the winter. In addition, the school-based teams met weekly using a semi-structured collaboration framework and monthly with an implementation coach.

The eight evidence-based instructional strategies were aligned with the IES Practice Guide for literacy instruction for MLs [36]. Two of the strategies focused on decoding skills, including the application of phonemic awareness and phonics knowledge to encode and decode words. Six language comprehension strategies focused on vocabulary, oral language, language structure, and scaffolds for reading comprehension. See Table 1 for an overview of the instructional strategies included in the PL program.

Table 1. Instructional strategies.

Type of Skill	Instructional Strategy	Purpose/Literacy Domain
Decoding	Say It, Move It	Develop phonemic awareness, phonics knowledge, and segmenting
	Blend As You Go	Develop phonemic awareness, phonics knowledge, and blending
Language Comprehension	Teaching Cognates	Leverage L1 to recognize words and understand meaning in L2
	Vocabulary Text Talk	Understand the meanings of words, especially academic vocabulary
	Frayer Model	Understand the meaning of concepts and words, especially content areas
	Modified DRA	Promote comprehension, vocabulary, and understanding
	Language Frames—Oral	Build oral language to internalize academic vocabulary
	Language Frames—Written	Support written language to internalize vocabulary and sentence structure

The teachers were introduced to the concept of cultural wealth through presentations on Yosso's framework and a panel of multilingual parents. In addition, the teachers experienced a conscientizing exercise, *La maleta* [The suitcase] [48] which illustrates the various strengths children cultivate at home and in their communities but are often asked to leave behind as they enter schooling in the United States. The teachers were provided with

suggestions for integrating cultural wealth into their classroom. Subsequently, during the coaching process, the teachers were supported in connecting their classroom environment and materials to students' cultural wealth. The larger study focused on language and literacy growth for MLs who spoke Spanish as their home language; thus, the cultural wealth component of the PL focused on Latino culture.

Earlier studies of the PL program showed a significant impact on classroom teachers' instructional practices and MLs' language and literacy outcomes [9,49]. This is the first study examining the impact of the program on ESL teachers' practices.

7. Research Questions

The goal of this study was to examine the impact of the yearlong professional learning (PL) program on ESL teachers' instructional practices and collaboration. The specific research questions examined in the current study were as follows:

1. What impact did the PL program have on ESL teachers' use of evidence-based instructional strategies for MLs?
2. What impact did the PL program have on ESL teachers' collaboration frequency, processes, and role in collaboration?
3. What impact did the PL program have on ESL teachers' incorporation of Latino students' cultural wealth in the classroom environment?

8. Methods

We examined the impact of the PL program on ESL teachers' practices using a randomized controlled trial in 30 elementary schools from three school districts during the 2018–2019 and 2019–2020 school years. ESL teachers were invited to participate in the program along with either kindergarten or first-grade classroom teachers from their school.

Randomization procedures were conducted by the team statistician, who did not have a role in recruiting either the schools or teachers. In both cohort 1 and cohort 2, schools were randomly assigned to either the full-year PL program or to a waitlist control group after all teacher consent forms had been collected. In cohort 1, schools were blocked by district and then assigned to treatment vs. control within district using a permuted blocks randomization procedure. All schools in cohort 1 followed a traditional school calendar. In cohort 2, which included schools in only one district, schools were blocked by type of calendar (traditional or year-round) and then assigned to treatment vs. control within block using a permuted blocks randomization procedure.

8.1. District and School Characteristics

In cohort 1, seven elementary schools participated from District 1 and six elementary schools participated from District 2. In cohort 2, 16 schools participated from District 3. Districts 1 and 2 served approximately 33,000 and 36,000 students, respectively. The third district served over 150,000 students during the 2019–2020 school year. Districts 1 and 3 are in urban counties, while District 2 is considered a rural county. The characteristics of the participating elementary schools from each district are shown in Table 2. The average size of the elementary schools participating in this study ranged from 586 students in District 1 to 715 students in District 2. An average of 50% of students were from economically disadvantaged backgrounds in the participating schools in Districts 2 and 3; in District 1, 59% of students were from such backgrounds. The average percentage of students who met grade-level proficiency in third grade was 42% in District 1, 45% in District 2, and 55% in District 3. The percentage of students who met the state's definition of progress toward English language attainment in District 1 was 60%, 55% in District 2, and 53% in District 3.

Table 2. School characteristics by district.

	District 1 (7 Schools)	District 2 (6 Schools)	District 3 (16 Schools)
Number of Students			
• Average school size	586	715	634
• School size range	312–855	332–1102	415–767
Percentage of Students			
• Economically Disadvantaged (EDS)	59	50	50
• EDS range	43–70	27–66	20–81
• Proficient in Eng Lang Arts (ELA)	42	45	55
• ELA range	25–54	31–57	31–75
• Met Eng Lang Progress Standards (Eng Lang Prog)	60	55	53
• Eng Lang Prog range	43–71	47–62	43–65

8.2. Participants

Thirty-one ESL teachers initially participated in this study. One ESL teacher changed jobs before the end of the school year and was not included in the analyses. In one school, two ESL teachers participated in the study. One of these ESL teachers was randomly selected to be dropped from these analyses. Accordingly, 29 teachers from 29 different elementary schools were included in these analyses. Of these 29 ESL teachers, 27 identified as female (93%), and all teachers had over 5 years of experience, with 41% having between 6–15 years of experience and 59% with over 15 years of experience. See Table 3 for additional demographic information.

Table 3. ESL teacher characteristics.

Variables	<i>n</i> (%)
ESL Teacher-level variables	<i>n</i> = 29
Gender <i>n</i> (%)	
Male	2 (7%)
Female	27 (93%)
Prefer not to respond	1 (2%)
Total Years of Teaching	
6–15 years	12 (41%)
More than 15 years	17 (59%)
Highest Degree Completed	
Bachelor	17 (59%)
Master's or Doctorate	12 (41%)
Race/Ethnicity (multiple responses allowed)	
African American or Black	3 (10%)
American Indian or Alaskan Native	1 (3%)
Asian	2 (7%)
Native Hawaiian or Other Pacific Islander	0 (0)
White	24 (83%)
Prefer not to respond	1 (3%)
Ethnicity	
Hispanic/Latino	6 (21%)
Non-Hispanic/Latino	22 (76%)
Prefer not to respond	1 (3%)
Language Proficiency	
No Spanish	21 (72%)
Some Spanish	8 (28%)

8.3. Data Sources: Measures and Covariates

8.3.1. Classroom Observations: Instructional Strategies

Classroom observations were conducted four times during the school year in both the intervention and control group ESL classrooms during the 2018–2019 school year: once at

the beginning of the school year prior to the professional learning workshops and three additional times during the winter and spring. For teachers participating during the 2019–2020 school year, we conducted a baseline observation but were limited to either one or two additional observations due to the COVID-19 pandemic. Trained observers, blind to condition, scored the presence or absence of between three and seven indicators for each of the eight instructional strategies on a classroom observation tool. The observation tool contained observable indicators for each of the eight instructional strategies. To ensure validity, the indicators and strategies were aligned with evidence-based strategies from the research literature, including the IES Practice Guide [36]. The observers were trained in the following three phases: (1) reviewing the indicators and the scoring manual, which provided detailed guidance on when an indicator could be scored as present; (2) practice scoring videos of literacy instruction and receiving feedback; and (3) shadowing an experienced observer in a classroom, debriefing the scoring, and discussing discrepancies until the novice observer was consistent with the experienced observer. Inter-rater reliabilities for the eight instructional strategies were estimated using the full sample of $N = 67$ ESL and classroom teachers for whom multiple-observer classroom observations (conducted at Time 4 during the 2018–2019 school year and at Time 3 during the 2019–2020 school year) had been completed. We calculated inter-rater reliability agreement using Gwet's AC1, which is a chance-corrected index that addresses the kappa paradox phenomenon [50]. Estimates indicated moderate-to-high reliability for the observation tool, with chance-corrected AC1 values for the individual indicators as follows: Two of the 39 indicators (5%) had an AC1 that fell between 0.55 and 0.60; all other indicators (37/39 or 95%) were above 0.60, with most indicators (74%) being above 0.80.

8.3.2. Teacher Collaboration

The ESL teachers responded to an online survey at the beginning and end of the school year. The teachers rated themselves on six items related to their collaboration process/planning with the classroom teachers and one question related to the frequency of their collaboration. Three items about collaborative short- and long-term planning with classroom teachers were adapted from Baecher and Bell, who conducted a mixed-methods study to identify how ESL teachers view collaboration, to what extent they engage in collaboration, and what conditions are necessary to sustain collaboration [3]. The survey items were based on the Collaboration Continuum Model framework [3,51]. The six collaboration process items included questions about the intentional use of a framework for collaboration and alignment with classroom instruction (see Table 4). For the collaboration frequency item, the teachers were asked “How often do you collaborate with the ESL teacher?” The eight response options ranged from “never” to “daily”.

Table 4. Collaboration planning and process items.

Collaboration Planning
Rated on a scale from “never” to “often” and included the following:
(1) Plan lessons with classroom teachers;
(2) Plan long-term goals with classroom teachers;
(3) Plan short-term goals with classroom teachers.
Collaboration Processes
Rated on a scale from “strongly disagree” to “strongly agree”
(1) I am confident in my role as a collaborator with classroom teachers;
(2) I have a clear framework for leading collaboration sessions with classroom teachers;
(3) I am effective in helping classroom teachers implement new strategies for working with English Learners (ELs);
(4) I am able to align my work with ELs with what is happening in their classroom;
(5) I am effective in helping classroom teachers set goals for modifying their instructional strategies for ELs;
(6) I find collaboration with classroom teachers useful when working with ELs.

For the collaborative role variable, we combined the following items from the ESL teacher survey: (1) I am frequently consulted as a resource by other teachers at my school about ELs; (2) I feel that my opinion is respected by other school professionals regarding issues of assessment, placement, and instruction of ELs; (3) Teachers trust my opinion about how they can support ELs; and (4) I feel as though classroom teachers view me as a professional equal.

8.3.3. Classroom Observations: Cultural Wealth

Classroom observers rated cultural wealth in the classroom environment on a scale from 1 (not observed at all) to 5 (exemplary effort with high-level examples and clear framework or intentional effort) based on a list of visible indicators of intentional connections to Latino language or culture. The observers were trained using the three-step process described above for the instructional observations. As mentioned earlier, the larger study focused on the impact of the program on students whose home language was Spanish. The cultural wealth observation tool specifically focused on Spanish/English resources and cultural references for Latino students. Examples of cultural wealth in the environment included pictures, signs, labels, or books that represented Latino culture or the use of Spanish for classroom procedures. For purposes of analysis, each observation score was recoded as 0 (not observed), 1 (a few instances), or 2 (multiple instances with intentional depth and focus).

8.4. Data Analytic Strategy

A general linear modeling approach was employed using the SAS procedure GLM (SAS/STAT software, version 9.4). Study hypotheses were tested using ANCOVA models, with the baseline value of the outcome included as a pretest covariate. We additionally employed the following covariates: study cohort; extent of teacher's classroom experience (coded 0 for 6 to 15 years of teaching experience and 1 for greater than 15 years of experience); level of education (coded 0 for a bachelor's degree and 1 for post-undergraduate education, including a master's or doctoral degree); and whether or not the ESL teacher indicated they spoke Spanish (coded 0 for no and 1 for yes). District (nested within cohort) was modeled as a fixed effect. A dummy coding scheme was also employed for the focal (categorical) school-level allowed-for factor Condition (with reference group Condition = Control coded 0).

Fixed-effect parameters were estimated and interpreted. Our primary interest was in the comparison of predicted mean outcomes for ESL teachers in the intervention and control groups, controlling for the baseline score on the outcome. The statistical significance of fixed effects was evaluated with Type III tests. Effect size for the impact of intervention was computed from the t statistic for the test using the formula $d = \frac{2t}{\sqrt{df_{\text{denominator}}}}$. Effect size was also evaluated using semipartial omega squared, which provides an approximately unbiased estimate of the proportion of total variation accounted for by the predictor being tested.

9. Results

9.1. Evidence-Based Instructional Strategies

The results from the test of the omnibus null hypothesis indicated that the full model explained a nonzero proportion of variation in the instructional strategies outcome, $F(7, 21) = 5.29$, $p = 0.001$, $\omega^2 = 0.51$. There was a statistically significant impact of the PL program on the ESL teachers' use of evidence-based instructional strategies for MLs, such that all else held constant, the teachers in the intervention group were predicted to have a score on the instructional strategies observation tool that was 1.58 units higher than that of the teachers in the control group, $t(21) = 4.17$, $p < 0.001$, 95% CI [0.79, 2.37], $d = 1.82$. As shown in Table 5, the treatment condition explained an estimated 27.81% of the variation in the teachers' instructional strategies scores. All else held constant, neither the effect of the teachers' years of experience, $b = -0.67$, $t(21) = -1.57$, $p = 0.13$, nor level of education,

$b = 0.06$, $t(21) = 0.16$, $p = 0.88$, nor ability to speak Spanish, $b = -0.01$, $t(21) = -0.03$, $p = 0.98$, was statistically significant.

Table 5. Evidence-based instructional strategies.

Effect	Estimate	SE	t	p	95% CI		Semipartial Omega Square
					LL	UL	
Intercept	1.89	0.83	2.26	0.03	0.15	3.62	
Cohort	0.51	0.44	1.16	0.26	−0.41	1.44	−0.02
District (Cohort)	1.22	0.56	2.16	0.04	0.04	2.39	0.06
Treatment Condition	1.58	0.38	4.17	<0.001	0.79	2.37	0.28
Instructional Strategies Baseline	0.24	0.10	2.37	0.03	0.03	0.46	0.08
Experience	−0.67	0.43	−1.57	0.13	−1.56	0.22	0.03
Education	0.06	0.41	0.16	0.88	−0.78	0.91	−0.02
Spanish	−0.01	0.42	−0.03	0.98	−0.89	0.87	−0.02

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

9.2. Collaboration Frequency, Processes, and Role

There was insufficient evidence to conclude that the full model explained a nonzero proportion of variation in the collaboration frequency outcome, $F(7, 21) = 0.69$, $p = 0.68$, $\omega^2 = -0.08$. All else held constant, there was insufficient evidence to conclude that the PL program had an effect on the ESL teachers' reported frequency of collaboration with classroom teachers, $b = 0.27$, $t(21) = 0.53$, $p = 0.60$, 95% CI $[-0.78, 1.31]$, $d = 0.23$, $\omega^2 = -0.03$; see Table 6.

Table 6. Collaboration frequency.

Effect	Estimate	SE	t	p	95% CI		Semipartial Omega Square
					LL	UL	
Intercept	3.88	1.19	3.27	0.004	1.41	6.35	
Cohort	1.07	0.59	1.81	0.08	−0.16	2.30	0.07
District (Cohort)	0.60	0.75	0.80	0.43	−0.96	2.16	−0.01
Treatment Condition	0.27	0.50	0.53	0.60	−0.78	1.31	−0.03
Collaboration Frequency Baseline	0.08	0.16	0.48	0.64	−0.26	0.42	−0.03
Experience	0.06	0.52	0.11	0.91	−1.01	1.13	−0.04
Education	0.06	0.53	0.12	0.90	−1.03	1.16	−0.04
Spanish	0.35	0.54	0.66	0.52	−0.77	1.47	−0.02

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

The results from the test of the omnibus null hypothesis indicated that the full model explained a marginally significant proportion of variation in the collaboration processes outcome, $F(7, 21) = 1.97$, $p = 0.11$, $\omega^2 = 0.19$. There was a statistically significant impact of the PL program on the ESL teachers' collaboration processes, such that with all else held constant, the teachers in the intervention group were predicted to have a score on the collaboration processes outcome that was 0.39 units higher than that of the teachers in the control group, $t(21) = 2.30$, $p = 0.03$, 95% CI $[0.04, 0.75]$, $d = 1.01$. The treatment condition explained an estimated 12.04% of the variation in the teachers' collaboration process scores; see Table 7.

The results from the test of the omnibus null hypothesis indicated that the full model explained a nonzero proportion of variation in the collaboration role outcome, $F(7, 21) = 3.56$, $p = 0.01$, $\omega^2 = 0.38$. However, with all else held constant, there was insufficient evidence to conclude that the PL program had an effect on the ESL teachers' report of their role as a collaborator with classroom teachers, $b = 0.04$, $t(21) = 0.27$, $p = 0.79$, 95% CI $[-0.27, 0.36]$, $d = 0.12$, $\omega^2 = -0.02$; see Table 8.

Table 7. Collaboration processes.

Effect	Estimate	SE	<i>t</i>	<i>p</i>	95% CI		Semipartial Omega Square
					LL	UL	
Intercept	1.09	0.55	1.96	0.06	−0.07	2.24	
Cohort	0.37	0.20	1.83	0.08	−0.05	0.80	0.00
District (Cohort)	0.42	0.26	1.62	0.12	−0.12	0.96	0.05
Treatment Condition	0.39	0.17	2.30	0.03	0.04	0.75	0.12
Collaboration Processes Baseline	0.34	0.18	1.88	0.07	−0.04	0.71	0.07
Experience	−0.00	0.18	−0.03	0.98	−0.39	0.38	−0.03
Education	0.11	0.18	0.59	0.56	−0.27	0.49	−0.02
Spanish	0.31	0.19	1.62	0.12	−0.09	0.71	0.05

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

Table 8. Collaboration role.

Effect	Estimate	SE	<i>t</i>	<i>p</i>	95% CI		Semipartial Omega Square
					LL	UL	
Intercept	1.06	0.58	1.83	0.08	−0.14	2.27	
Cohort	0.22	0.18	1.24	0.23	−0.15	0.59	−0.01
District (Cohort)	0.60	0.23	2.65	0.02	0.13	1.07	0.13
Treatment Condition	0.04	0.15	0.27	0.79	−0.27	0.36	−0.02
Collaboration Role Baseline	0.60	0.18	3.42	0.00	0.24	0.97	0.23
Experience	−0.10	0.16	−0.63	0.54	−0.44	0.23	−0.01
Education	−0.05	0.16	−0.31	0.76	−0.39	0.29	−0.02
Spanish	0.18	0.17	1.05	0.31	−0.17	0.53	0.00

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

9.3. Cultural Wealth in the Classroom Environment

There was insufficient evidence to conclude that the full model explained a nonzero proportion of variation in the cultural wealth in the classroom environment outcome, $F(7, 21) = 0.80$, $p = 0.60$, $\omega^2 = -0.05$. Additionally, with all else held constant, there was insufficient evidence to conclude that the PL program had an effect on the ESL teachers' incorporation of students' cultural wealth in their classroom environment, $b = 0.29$, $t(21) = 1.06$, $p = 0.30$, 95% CI $[-0.28, 0.87]$, $d = 0.46$, $\omega^2 = 0.004$; see Table 9.

Table 9. Cultural wealth in the classroom environment.

Effect	Estimate	SE	<i>t</i>	<i>p</i>	95% CI		Semipartial Omega Square
					LL	UL	
Intercept	0.36	0.54	0.66	0.51	−0.77	1.49	
Cohort	0.28	0.34	0.83	0.42	−0.42	0.98	0.02
District (Cohort)	−0.08	0.45	−0.17	0.87	−1.02	0.86	−0.04
Treatment Condition	0.29	0.28	1.06	0.30	−0.28	0.87	0.00
Cultural Wealth Baseline	0.19	0.18	1.01	0.33	−0.20	0.57	0.00
Experience	0.11	0.31	0.35	0.73	−0.53	0.74	−0.03
Education	−0.22	0.30	−0.72	0.48	−0.85	0.41	−0.02
Spanish	0.50	0.31	1.63	0.12	−0.14	1.15	0.06

Note. CI = confidence interval; LL = lower limit; UL = upper limit.

10. Discussion

The purpose of the current study was to examine the impacts of a professional learning program on ESL teachers' use of evidence-based instructional strategies for MLs; their collaboration frequency, processes, and roles; and the incorporation of Latino MLs' cultural wealth into their classroom environment. A significant strength of this study is the experimental design; that is, the ESL teachers were randomly assigned to either the professional learning program group or a control group. The findings from the current RCT support three main conclusions related to ESL teachers' participation in the professional learning program. (a) There was a significant and positive effect of the PL program on the ESL teachers' use of evidence-based instructional strategies for MLs. The teachers who participated

in the PL program, on average, engaged in greater use of evidence-based instructional strategies than those in the control group. (b) There was a significant, positive effect of the program on the ESL teachers' collaboration processes. Specifically, the ESL teachers in the PL program reported greater use of an intentional framework for collaboration and alignment with classroom teachers' instruction than the ESL teachers in the control condition. (c) There was no significant impact on the ESL teachers' incorporation of cultural wealth in their classroom environment nor on the reported frequency of their collaboration or their collaborative role.

10.1. ESL Teacher Use of Evidence-Based Instructional Strategies for MLs

The findings from the current study support the positive impact of the professional learning program on ESL teachers' instruction; the teachers who participated in the program were observed implementing evidence-based instructional strategies for literacy significantly more than the teachers who did not participate in the program. This finding echoed those from prior studies that also demonstrated the efficacy of the professional learning program for impacting general classroom teachers' instructional practices [9,49]. It is likely that the professional learning "competency drivers" [19], including the implementation coaching, collaboration, and application activities within the workshops, facilitated the teachers' implementation of the evidence-based instructional strategies to support MLs.

Moreover, because the professional learning program facilitates collaboration and alignment for ESL and general classroom teachers, the ESL teachers were able to work collaboratively with the general classroom teachers [3,4]. The ESL teachers in this study were encouraged to align their instruction with the pedagogy of the classroom teachers, resulting in increased implementation of evidence-based instructional strategies compared with the ESL teachers in the control condition. The ESL teachers in the professional learning condition were able to use the targeted evidence-based instructional strategies to support both English language development and early literacy skills in English by providing instruction in vocabulary and oral language development, decoding, and comprehension [36], using tools such as cognates [37,38], graphic organizers [39], explicit vocabulary instruction [40], and oral and written language frames [41].

10.2. ESL Teacher Collaboration Processes and Frequency

The findings from the current study support the positive impact of the professional learning program on ESL teachers' collaboration processes. While collaboration has increasingly become part of ESL teachers' job responsibilities [3,52], there are few opportunities for ongoing professional learning that include both classroom teachers and ESL teachers together. There is increasing evidence that a "community of practice" instructional approach [6], which focuses on bolstering all teachers' pedagogical practices, increases educational outcomes for MLs more than only focusing on improving ESL teachers' pedagogical practices [2]. Additionally, these communities of practice allow teachers to step out of isolated, siloed approaches and into more interactive and collaborative approaches, which introduce students to a wider array of instructional expertise [1]. Through this shared experience in the PL program, the ESL teachers were more likely to follow an intentional framework for supporting classroom teachers in enhancing their instruction for MLs. This type of professional learning experience addresses the lack of preparation for collaboration often present in ESL teachers' preparation [3].

The professional learning activities, particularly the collaboration activities and implementation coaching, likely facilitated meaningful collaboration between the ESL and general classroom teachers [19]. Through this meaningful collaboration, the ESL teachers were able to participate in purposeful and relevant communities of practice with general classroom teachers at their schools, allowing for an interactive and collaborative approach to supporting their multilingual learners [1]. In addition, the PL program provided the teachers with a weekly routine for collaboration [45] along with administrative support for their collaboration with classroom teachers [4,5,28].

The findings did not provide evidence for the impact of the professional learning program on the ESL teachers' self-reported frequency of collaboration. The ESL teachers reported their frequency of collaboration on a scale from never to daily at the beginning and end of the school year. It is likely that the teachers in both the PL group and the control condition considered their frequent interactions with classroom teachers as "collaboration," although the intentionality and depth of the interactions may have varied. Previous research found that ESL teachers' collaboration was more informal and often focused on a problem to be addressed rather than aligning instructional approaches or content [3]. Our findings also did not show an impact of the PL program on the ESL teachers' reporting of their collaborative role. The ESL teachers in the PL program and in the control group did not differ in terms of their self-reported feelings of respect and trust from their classroom teacher colleagues.

10.3. Cultural Wealth in the Classroom Environment

With a focus on instruction for students who are multilingual and multicultural, ESL teachers are typically the experts in an elementary school for promoting culturally responsive teaching. In this study, we did not find an effect of the PL program on representations of Latino cultural or use of Spanish in pictures, signs, labels, or books in the classroom environment. Furthermore, the ESL teachers' Spanish language abilities may have been one of the most important indicators of their use of Spanish language and cultural artifacts in the classroom environment. Future research should focus on the specific approaches ESL teachers use to center their students' culturally and linguistically diverse assets [23] and how these practices can enhance their collaboration with classroom teachers.

11. Limitations

There are several limitations of this study which should be considered in interpreting the findings. First, the small sample size of ESL teachers likely limited our statistical power to detect differences for some outcomes. Second, school closures due to the COVID-19 pandemic limited the number of classroom observations for the second cohort of ESL teachers. Third, teachers' definitions of collaboration may vary widely, and future research should provide a description of collaborative practices along with teachers' reporting of how frequently they engage in those practices. Finally, more precise measures of cultural wealth in the classroom environment may provide a clearer picture of the ways in which ESL teachers engage in culturally relevant pedagogy.

Scholarly Significance of Work

Collaborative practices between ESL and classroom teachers have been called a "tool for equity", in that they support the integration of multilingual learners in classroom instruction [52] (p. 7), which is a shift from past approaches that often separated, excluded, and, ultimately, *othered* multilingual learners. Furthermore, collaboration between ESL teachers and classroom teachers can enhance teachers' instructional practices for MLs, which can in turn improve MLs' early language and literacy skills and works to shrink opportunity and achievement gaps. By scaffolding academic content for MLs, ESL teachers are able to promote equitable access to classroom instruction. Thus, this study provides evidence for professional learning that fosters an intentional collaborative process between ESL and classroom teachers that promotes the implementation of evidence-based instructional strategies for young multilingual learners.

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