

Dual Language Programs

Intervention Brief | English Language Arts Topic Area

WHAT WORKS CLEARINGHOUSE™

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Providing instruction in multiple languages has the potential to simultaneously help both native English speakers and English learners to develop language proficiency. *Dual language programs* can help native English speakers develop proficiency in a second language and English learners develop proficiency in both their native language and English. Typically in *dual language programs*, classroom teachers instruct students from an early age and over multiple years in both English and a second language called the partner language. These programs vary widely by partner language, primary language of the student population, and duration. Because reaching proficiency in a second language may require substantial exposure over an extended period of time, this report examines *dual language programs* that (1) span at least the elementary grades; and (2) provide at least 50 percent of instruction in the partner language.

Goal: *Dual language programs* aim to promote academic achievement, bilingualism and biliteracy, and awareness and appreciation of diverse cultures.

Target population: *Dual language programs* can be used in grades PK-12 and are most commonly implemented in K-5 or K-8. *Dual language programs* can be used with both English learners and native English speakers.

The What Works Clearinghouse (WWC) reviews existing research on educational interventions to identify evidence-based programs and practices. This WWC intervention report summarizes the available evidence on the effects of *dual language programs* on student outcomes.




Did dual language programs improve student outcomes?

Out of the 45 studies reviewed by the WWC for this report, only two studies of *dual language programs* meet WWC standards, and 43 studies did not meet WWC standards and therefore are not summarized in this report. Therefore, the effects of *dual language programs* implemented in most settings are unknown, and more rigorous research is needed to determine program effects across different student populations, partner languages, and program models.

Findings from the two studies that meet WWC standards are summarized in Table 1. The table includes rows for each outcome domain—a group of related outcome measures—that was studied in the research. Effects of *dual language programs* on other student outcomes are unknown. Table 1 indicates whether the evidence satisfies the WWC’s requirements for strong, moderate, or promising tiers of evidence. Based on one study, there is moderate evidence that the *dual language programs* positively impacted student literacy achievement in English.

The WWC effectiveness rating indicates whether *dual language programs* resulted in improved outcomes for students who participated in the program compared with students who did not. More information about these ratings and requirements is provided on the next page. Findings and conclusions could change as new research becomes available.

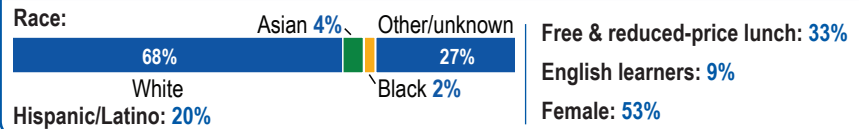
Table 1. Summary of findings on *dual language programs* from studies that meet WWC standards

Outcome domain	Effectiveness rating	Sample size	Evidence tier	Summary
Literacy achievement	Potentially positive effects	844 students		One study provides strong evidence that <i>dual language programs</i> improved student literacy achievement. Because this assessment is based on only one study that meets WWC standards, the WWC effectiveness rating is potentially positive effects.
Science achievement	Uncertain effects	814 students		The research does not support claims that <i>dual language programs</i> improved student science achievement. This assessment is based on one study that meets WWC standards.
Mathematics achievement	Uncertain effects	3,133 students		The research does not support claims that <i>dual language programs</i> improved student mathematics achievement. This assessment is based on two studies that meet WWC standards.

FINDINGS FROM 2 STUDIES

3,133 students in Oregon and Utah.

STUDENTS IN GRADES K–8



HOW THE WWC REVIEWS AND SUMMARIZES EVIDENCE

The WWC conducted a systematic review of interventions designed to improve students' academic achievement and selected and prioritized studies for review using the version 4.1 [Systematic Review Protocol for English language arts interventions](#). The WWC evaluated the quality and results of the selected studies using the criteria outlined in the version 4.1 [Procedures and Standards Handbooks](#) and the accompanying [Study Review Protocol](#).

The WWC considers each study's research design, whether findings were statistically significant and positive, and the number of studies contributing to this report. The WWC synthesizes evidence across studies—using a weighted average—to determine the effectiveness rating for each outcome domain. The WWC defines outcome domains in the [Study Review Protocol](#) to group related outcome measures.

Effectiveness rating	Description of the evidence
Positive (or negative) effects	The evidence base primarily includes the strongest research designs, and the average effect across all high-quality research is statistically significant and positive (or negative).
Potentially positive (or negative) effects	The evidence base primarily includes research with some limitations, and the average effect across all high-quality research is statistically significant and positive (or negative).
Uncertain effects	The average effect across all high-quality research is not statistically significant, so the WWC does not classify it as a positive or a negative effect.

The WWC considers the effectiveness rating, the sample size, and the number of educational sites (states, school districts, local education agencies, schools, postsecondary campuses) across studies to determine the evidence tier for each outcome domain. When the effectiveness rating is *uncertain*, *potentially negative*, or *negative effects*, there is no evidence tier.

Effectiveness tier	Criteria based on evidence synthesis
Strong evidence of effectiveness	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-right: 10px;"> TIER 1 STRONG </div> <ul style="list-style-type: none"> • Receives an effectiveness rating of positive effects, and • Includes at least 350 students in at least two educational sites </div>
Moderate evidence of effectiveness	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-right: 10px;"> TIER 2 MODERATE </div> <ul style="list-style-type: none"> • Receives an effectiveness rating of potentially positive effects, and • Includes at least 350 students in at least two educational sites </div>
Promising evidence of effectiveness	<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center; margin-right: 10px;"> TIER 3 PROMISING </div> <ul style="list-style-type: none"> • Receives an effectiveness rating of potentially positive effects or positive effects • Includes fewer than 350 students or two educational sites </div>

How were dual language programs implemented?

This section provides details of how school districts and schools implemented *dual language programs* in the two studies that contribute to this intervention report. This information can help educators identify the requirements for implementing *dual language programs* and determine whether implementing this intervention would be feasible in their school districts or schools.

Dual language programs are also referred to by other names, such as dual language immersion, dual language bilingual, or one- or two-way immersion programs. *Dual language programs* can be implemented with students from one language group (in one-way programs) or with students from two language groups (in two-way programs). For example, a school with all native English speakers could implement a Japanese one-way program in which the native English speakers also learn Japanese. Another school that includes both native English speakers and native Spanish speakers could implement a two-way program in which both groups of students are instructed in both English and Spanish.

Comparison condition: In the two studies that contribute to this intervention report, students in the comparison group attended schools with regular instructional programs in English only in the same school district or state.

Dual language programs can vary in duration and be implemented either schoolwide or as a strand within a school. In the strand within a school approach, some, but not all classrooms at each grade level implement the program. Programs that start with a higher percentage of instructional time in the partner language than in English reduce the amount of instructional time in the partner language at each grade level, moving toward 50% of instructional time in each language by about grade 4. Participating students in *dual language programs* receive the program every day continuously across multiple school years.

Both studies that meet WWC standards in this report implemented one-way and two-way programs. In one study, schools included in the sample implemented nine one-way programs in Japanese, Mandarin, and Spanish and 13 two-way programs in Russian and Spanish in elementary and middle schools. In the other study, schools implemented 17 one-way programs in Chinese, French, and Spanish and nine two-way programs in Spanish in elementary schools. Table 2 describes the components and implementation of the *dual language programs* in the two studies highlighted in this report.

WWC standards assess the quality of the research, not the quality of the implementation. Studies that meet WWC standards vary in quality of implementation. However, a study must describe the relevant components of the intervention and how each was implemented with adequate detail to be included in an intervention report.

Table 2. Implementation of components of *dual language programs*

Component	Description of the component	How it was implemented
Program leadership and support	<p>Schools establish a school leadership team consisting of teachers and administrative staff that is responsible for selecting the type of <i>dual language program</i> they will implement, advocating for the program, overseeing the implementation of the model and its ongoing development and evaluation, including staff development.</p> <p>The school district or state helps select a <i>dual language program</i> model, sets goals for the program, provides training and technical support to the school leadership team, and provides funding for purchasing or developing curriculum and assessment materials.</p>	<p>One study does not provide information on how the schools were supported. In the other study, the state board of education provided guidelines and tools for ensuring fidelity of implementation to the state’s dual language immersion model. A state advisory council, including principals and school district administrators, met regularly.</p> <p>Neither study provides specific information about the implementation of the school leadership team.</p>
Hiring and training linguistically and culturally competent teachers in both languages	<p>Schools may need to hire additional teachers who are fluent in the partner language and provide training and support to all teachers on how to deliver instruction in two languages. In addition to certification in their given content area, teachers must be trained on how students develop bilingualism and biliteracy and, especially for two-way programs, learn how to incorporate student cultural and linguistic backgrounds into instruction. Not all teachers need to be bilingual, but they must all be committed to the goals of bilingualism and biliteracy.</p>	<p>Principals in one study worked with the school district to recruit and hire additional teachers who were proficient in the partner languages.</p> <p>In the other study, school districts hired guest teachers on a temporary basis as partner language teachers.</p>
Aligned curriculum, assessments, and instruction in both languages	<p>Schools develop or purchase an enriched curriculum across the two languages that is culturally responsive and representative of all students and promotes equal status of both languages and appreciation for multiculturalism and linguistic diversity. Schools develop or adopt a scope and sequence and ensure alignment of the curriculum across subjects and grades in both languages. Ongoing and year-end assessments are aligned with the curriculum to enable continual student and program evaluation in both languages. Instruction is aligned with standards, is developmentally appropriate, and provides opportunities to develop higher-order thinking skills. Language objectives are incorporated into content area instruction to promote the development of academic language that is required for success in school.</p>	<p>In one study, the school district ensured that curricula were available in the partner languages for all grades and content areas needed.</p> <p>In the other study, the state developed a curriculum aligned with the Common Core standards that is designed to promote literacy in both languages and meet established English and partner language proficiency targets in all grades. The state also developed lesson plans and translated academic content curricula and materials for math, social sciences, and science for all partner languages.</p>

Note: The descriptive information for this intervention comes from the two studies that meet WWC standards, the Utah State Board of Education website (<https://www.schools.utah.gov/curr/dualimmersion?mid=5560&tid=2>), Portland Public Schools website (<https://www.pps.net/Page/269>), and from correspondence with a content expert.

How much do *dual language programs* cost?

This section provides educators with an overview of the resources needed to implement *dual language programs*. The costs of implementing *dual language programs* vary. Steele et al. (2018) report that the cost of implementing *dual language programs* in their study was about 2% to 4% of per-pupil spending annually and incurred primarily by the school district. Other studies have estimated costs for *dual language programs* from 7% to 12% of per-pupil spending. Table 3 describes the major resources needed for implementation and approximate costs, based on information available as of June 2018.

Table 3. Resources needed to implement *dual language programs*

Resource	Description	Funding source
Personnel	These costs include resources for additional administrative and instructional staff who may be needed to implement <i>dual language programs</i> , and training and professional development that focuses on the unique context of <i>dual language programs</i> . Teachers may also need additional time for translating English materials into the partner language and appropriately adapting school district instructional plans and initiatives that were not specifically designed to be used in <i>dual language programs</i> .	School districts or schools cover costs for additional staff and provide training and professional development.
Facilities	The program is delivered in a classroom setting during regular class time.	School districts or schools provide the classroom facilities.
Equipment and materials	The costs of curricular and instructional materials in the partner language, such as textbooks and assessments, can vary widely.	School districts or schools usually purchase materials, textbooks, and assessments in the partner language and English, as necessary.

For more information about the cost of *dual language programs*

Lara-Alecio, R., Galloway, M., Mason, B., Irby, B. J., & Brown, G. (2004). *Texas dual language program cost analysis*. Texas A&M University.

Parrish, T. B. (1994). A cost analysis of alternative instructional models for limited English proficient students in California. *Journal of Education Finance*, 19, 256–278.

Steele, J. L., Slater, R. O., Li, J., Zamarro, G., Miller, T., & Bacon, M. (2018). Dual-language immersion education at scale: An analysis of program costs, mechanisms, and moderators. *Educational Evaluation and Policy Analysis*, 40(3), 420–445.

LEARN MORE



Read the full [intervention report](#) to learn more about *dual language programs*, how it was implemented in the studies that meet standards, and what the studies found. Visit the [WWC website](#) for summaries of evidence on other interventions and to learn more about the research the WWC has reviewed.