

**Reference Desk Response No. 219:
Student Achievement in Dual Language/Two-Way Immersion Program**

Question/s:

1. What does the research say about the academic achievement in English (or native languages) of students who are or have been placed in dual-language/two-way immersion programs?
 2. Is there research that focuses on the achievement of students depending on the language model of the dual-language program? For example, a 50-50 model means that each language is used 50% of the time.
 3. Is there research that differentiates the achievement of students in dual-language programs according to their native language backgrounds (native English speakers vs. native speakers of other languages)?
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Report:

Following an established REL-NEI Reference Desk research protocol, we conducted a search for research reports as well as descriptive and policy-oriented briefs and articles in this area. The sources included federally funded organizations, additional research institutions, several educational research databases, and a general Internet search using Google and other search engines. We also searched for appropriate organizations that may act as resources on this issue. We have not done an evaluation of these organizations or the resources themselves, but offer this list to you for your information only.

“Two-way immersion (TWI) is an instructional approach that integrates native English speakers and native speakers of another language (usually Spanish) and provides instruction to both groups of students in both languages. While the model has been in existence in the United States for almost 40 years, the most dramatic growth has been seen over the past 15 years” (Howard, Sugarman and Christian, 2003; see below).

Our Researchers have found “on aggregate, the research summarized in this section indicates that both native Spanish speakers (NSS) and native English speakers (NES) in TWI programs perform as well or better than their peers educated in other types of programs, both on English standardized achievement tests and Spanish standardized achievement tests,” with “NES always showing a clear dominance in and preference for English, and language-minority students demonstrating more balanced bilingualism” (Howard, Sugarman and Christian, 2003; see below). We were unable to find research that compares different models of dual-language program, but were able to find: (1) research that demonstrates that dual-language programs are more effective than other language programs (Thomas and Collier, 2002; see below); and (2) research that suggests the “use of the non-English language at least 50 percent of the instructional time and as much as 90 percent in the early grades” is an important principle of a successful dual-language program” (Collier and Thomas, 2004).

We have also listed additional resources on Dual Language programs in general. Those resources might not directly answer the questions, but are recent published articles and can be used as references to understand the program model and practices in general.

Questions:

1. What does the research say about the academic achievement in English (or native languages) of students who are or have been placed in dual-language/two-way immersion programs?

1.1. A National Study of School Effectiveness for Language Minority Students' Long-term Academic Achievement.

Thomas, W.P., & Collier, V.; 2002; Santa Cruz, CA and Washington, DC: Center for Research on Education, Diversity & Excellence.

Source: Center for Applied Linguistics

(<http://www.cal.org/resources/digest/ResBrief10.html>)

“The study evaluated achievement data from all fully implemented language support programs offered by the districts' bilingual or ESL department”, including two-way immersion programs, on-way developmental bilingual programs, transitional bilingual programs and English as a second language taught through academic content programs. Findings suggest that “the amount of formal primary language schooling that a student has received is the strongest predictor of second language student achievement. That is, the greater the number of years of primary language, grade-level schooling a student has received, the higher his/her English achievement is shown to be.”

1.2. Two-Way and Monolingual English Immersion in Preschool Education: An Experimental Comparison.

Barnett, et al.; 2007; Early Childhood Research Quarterly, Volume 22, Number 3, Page 277-293; ERIC Number: EJ782965.

Source: ERIC

(http://www.startingat3.org/_documents/ImmersionInPreschoolEducation.pdf)

“An experimental study was conducted comparing the effects of dual language, or two-way immersion (TWI) and monolingual English immersion (EI) preschool education programs on children's learning. Three-and four-year old children were randomly assigned by lottery to either a newly established TWI Spanish/English program or a monolingual English program in the same district. Children in the study were from both Spanish and English home language backgrounds. All classrooms in the study used the High/Scope curriculum, and all met high standards for teacher qualifications, ratio, and class size. The TWI program alternated between English and Spanish weekly by rotating children between two classrooms (and teachers) each week. Programs were compared on measures of children's growth in language, emergent literacy, and mathematics. Children in both types of classrooms experienced substantial gains in language, literacy, and mathematics. No significant differences between treatment groups were found on English language measures. Among the native Spanish speakers, the TWI program produced large gains in Spanish vocabulary compared to the EI program. Both TWI and EI approaches boosted the learning and development of children including ELL students, as judged by standard score gains. TWI also improved the Spanish language development of English language learners (ELL) and native English speaking children without losses in English language learning.”

1.3. A Texas Two-Way Bilingual Program: Its Effects on Linguistic and Academic

Achievement. *Alanís, I.; 2000; Bilingual Research Journal, Volume 24, Number 3, Page 225-248; Eric Number: EJ628481.*

Source: ERIC

(http://findarticles.com/p/articles/mi_qa3722/is_200007/ai_n8887823/)

“This study examines a variety of student outcomes in the area of linguistic and academic development and determines whether students enrolled in a two-way bilingual program for a minimum of three years are achieving academically. Participants were native Spanish-speaking and native English-speaking fifth-grade students of Mexican origin. The findings indicate that the majority of students who participated in the two-way bilingual program were performing at academic levels equal to or greater than their non-participant campus peers when tested on the Texas Assessment of Academic Skills (TAAS). In addition, participants were developing a high level of English literacy skills. Spanish literacy skills for the native English speakers, however, were not as highly developed. While there appeared to be promising bilingual development in the early years of the program, the rate of development seemed to be difficult to sustain in the upper grade levels.”

2. Is there research that focuses on the achievement of students depending on the language model of the dual-language program? For example, a 50-50 models means that each language is used 50% of the time.

Note: We were unable to find research that compares different models of dual-language programs, but were able to find: (1) research that compares dual-language programs and other language programs; and (2) research that suggests the “use of the non-English language at least 50 percent of the instructional time and as much as 90 percent in the early grades” is an important principle of successful dual-language programs.

2.1. A National Study of School Effectiveness for Language Minority Students' Long-term Academic Achievement. *Thomas, W.P., & Collier, V.; 2002; Santa Cruz, CA and Washington, DC: Center for Research on Education, Diversity & Excellence.*

Source: Center for Applied Linguistics

(<http://www.cal.org/resources/digest/ResBrief10.html>)

“The study evaluated achievement data from all fully implemented language support programs offered by the districts' bilingual or ESL department. These included four distinct theoretical program designs: Two-Way Bilingual Immersion, One-Way Developmental Bilingual Education, Transitional Bilingual Education, and English as a second language taught through academic content programs.”

Findings suggest that “90/10 and 50/50 Two-Way Bilingual Immersion and One-Way Developmental Bilingual Education programs are the only programs found to date that assist students to fully reach the 50th percentile (scoring above 50% of the other test takers) in both their native language and English in all subject areas and to maintain that level of high achievement, or reach even higher levels through the end of their schooling. The fewest dropouts come from these programs.”

2.2. The Astounding Effectiveness of Dual Language Education for All. *Collier, V. P., and Thomas, W. P.; Winter 2004; NABE Journal of Research and Practice, Volume 2, Number 1, Page 1-20.*

Source: National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs

(<http://njrp.tamu.edu/2004/PDFs/Collier.pdf>)

This paper asserts that “how the program is implemented can influence the rate at which English learners close the gap.” (p. 13). On page 13, “Important principles of dual language include a minimum of six years of bilingual instruction with English learners not segregated, a focus on the core academic curriculum rather than a watered-down version, high-quality language arts instruction in both languages and integrated into thematic units, separation of the two languages with no translation or repeated lessons in the other language, use of the non-English language at least 50 percent of the instructional time and as much as 90 percent in the early grades, and use of collaborative and interactive teaching strategies. How faithful teachers are to these principles can strongly influence the success of the program, and the principal is a key player in making the model happen as planned.”

3. Is there research that differentiates the achievement of students in dual-language programs according to their native language backgrounds (native English speakers vs. native speakers of other languages)?

3.1. Trends in Two-Way Immersion Education: A Review of the Research. *Howard, E., Sugarman, J., Christian, D.; August 2003; Center for Applied Linguistics; 69 pages; ERIC Number: ED483005.*

Source: ERIC

(http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/23/4a/96.pdf)

“Two-way immersion (TWI) is an instructional approach that integrates native English speakers and native speakers of another language (usually Spanish) and provides instruction to both groups of students in both languages. While the model has been in existence in the United States for almost 40 years, the most dramatic growth has been seen over the past 15 years.”

On page 30, “On aggregate, the research summarized in this section indicates that both native Spanish speakers (NSS) and native English speakers (NES) in TWI programs perform as well or better than their peers educated in other types of programs, both on English standardized achievement tests and Spanish standardized achievement tests. Within TWI programs, native speakers tend to outperform second-language learners, such that NES tend to score higher on English achievement tests and NSS tend to score higher on Spanish achievement tests. Additionally, students rated as balanced bilinguals with high levels of proficiency in both languages tend to outperform other students.”

On page 36, “Not surprisingly, there seem to be slightly different patterns for NES and language minority students, with NES always showing a clear dominance in and preference for English, and language-minority students demonstrating more balanced bilingualism. Sometimes the language-minority students tend to perform slightly higher in their native language, and other times slightly higher in English. In general, however, their performance on language and literacy measures across languages is much more similar than that of their NES peers.”

3.2. Two-Way Immersion Shows Promising Results: Findings from a New Study. *Sugarman, J. and Howard, L.; September 2001; Center for Applied Linguistics.*

Source: National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs

(<http://www.cal.org/resources/archive/langlink/0901.html>)

“As part of a 7-year study of two-way immersion, researchers at the Center for Applied Linguistics (CAL) collected data on the language development and academic achievement of 344 students in 11 Spanish/English TWI programs across the country... This article presents the findings from 3 years of data collection. The study found that both native English speakers and native Spanish speakers showed progress in their language and literacy skills from the beginning of third grade through the end of fifth grade. Looking at this descriptive data, some interesting trends began to appear, such as the fact that native Spanish speakers tend to have more balanced language and literacy skills in the two languages, while native English speakers tend to remain clearly dominant in English.”

3.3. What Two Way Bilingual Programs Reveal about the Controversy Surrounding Race and Intelligence. *Nicolaidis, et al.; 1998; International Journal of Bilingual Education and Bilingualism; Volume 1, Number 2, Page 134-48.*

Source: National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs

(<http://www.ncela.gwu.edu/rcd/bibliography/BE023637>)

“This study focused on the mathematics and reading achievement of African American students in a Spanish English two way immersion program from grade 1 to grade 4... Students were administered three standardized tests: the California Achievement Test (1985), the Spanish Achievement in Bilingual Education (1991) test, and the Raven Coloured Progressive Matrices test (1986). Findings show that the African American children performed significantly lower than white students on English achievement tests at all grades. However, there was no significant difference between the two ethnic groups in Spanish achievement in the early grades. The results of this study point to the primary role of social and environmental factors in the comparatively lower scores of African American children on standardized English achievement tests.”

Additional Organizations to Consult

- **Center for Applied Linguistics**

(<http://www.cal.org/>)

“CAL is a private, nonprofit organization working to improve communication through better understanding of language and culture.” Under the link <http://www.cal.org/twi/>, CAL provides information on directory of two-way programs, guiding practices for dual language, frequently asked questions, tools for practitioners, and publications in the area.

Resources on Dual Language Program in General

- **Connecting Worlds/Mundos Unidos Project: End-of-Year Report, 2007-2008.** *Ciriza, F.; 2008; Online Submission; 107 pages; ERIC Number: ED503544.*
Source: ERIC

http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/42/a4/33.pdf

"This report presents information on the Connecting Worlds/Mundos Unidos Project and provides a general comparison overview of accomplishments during its five years of operation. The Connecting Worlds/Mundos Unidos Project is one of very few dual-language projects for gifted students in the United States...Project students begin their dual-language education experience at Mesita Elementary, continue on to Wiggs Middle, and complete their preparation at El Paso High. The curriculum is offered to participating students in English and Spanish, based on the 50/50 model of instruction, i.e., approximately 50% of all instruction is delivered by teachers in one language or the other depending on the teacher's schedule of activities. This approach to teaching students in two languages has been widely researched, and the reader is encouraged to review at least three sources: Cloud, N., Genesee, F., and Hamayan E. (2000); Center for Applied Linguistics. "Frequently Asked Questions About Two-Way Immersion," which can be retrieved from cal.org/twi/FAQ.htm; and Valdes, Guadalupe. "Dual-Language Immersion Programs: A Cautionary Note Concerning the Education of Language-Minority Students." Harvard Educational Review Abstract 213. Fall 1997, which can be accessed at <http://www.hepg.org/her/abstract/213>. We also recommend the extensive research works by these authors: Merrill Swain; Stephen Kreshen; James Crawford; Fred Genesee; Lilly Wong-Fillmore; and James Cummins. Appended are: (1) Schools, Teachers, and Class Schedules; (2) Student Demographics in the Program Schools; (3) Scholastic Achievement Test & AP Test Scores; (4) Summary of Major Findings by Program Year; and (5) Observation Guide."

- **Expanding Children's Boundaries: An Approach to Second-Language Learning and Cultural Understanding.** DeBey, M., and Bombard, D.; March 2007; *Young Children*, Volume 62, Number 2, Page 88-93; ERIC Number: EJ756956.

Source: ERIC

http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_ERICExtSearch_SearchValue_0=EJ756956&ERICExtSearch_SearchType_0=no&accno=EJ756956

Note: Only the abstract for this article is available online.

"In this article, the authors discuss how Bennington College Early Childhood Center (ECC) developed a dual language program. In a dual language program, children are immersed in two languages throughout the day. Each classroom has two teachers, one speaking English, the other the second language exclusively. Children learn the second language in much the same way they do their first language: hearing it used in the context of daily activity with concrete, observable referents. With increased language skills, the children demonstrated a growing awareness of how languages work. Here, the authors describe the process in refining the program, and its impact on children."

- **The Two-Way Immersion Toolkit.** Howard, E. et al.; 2005; *Education Alliance at Brown University*; 8 pages; ERIC Number: ED491612.

Source: ERIC

http://www.alliance.brown.edu/pubs/twi/pdf_files/classinst_ar.pdf

"This Toolkit is meant to be a resource for teachers, parents, and administrators involved with two-way immersion (TWI) programs, particularly those at the elementary level.... This Toolkit is composed of three segments that address program design and planning, classroom instruction, and parental involvement, respectively. The classroom instruction segment includes a Question & Answer (Q&A) document on teaching in TWI programs; model lesson plans that show how best practices are implemented in the TWI classroom; a study guide to facilitate the use of the Q&A document and model lessons for professional development; and additional resources on effective instructional practices in TWI programs. The parental involvement segment includes an overview of two-way immersion, a Q&A document that addresses questions and concerns that parents frequently have, a home-school communication template designed to help classroom teachers facilitate strong home-school connections, and additional resources that include suggested readings on parent involvement in two-way immersion programs and links to resources that parents may find useful. All of the parent materials are available in Spanish as well as English. Student Study Team Red Folder Process: Early Intervention for Struggling Students and Identification Process for Students with Learning Differences is appended. A glossary is also included."

- **Beetles and Butterflies: Language and Learning in a Dual Language Classroom.** Reyes, S. A.; 2007; *Journal of Latinos & Education*, Volume 6, Number 1, Page 81-92; ERIC Number: EJ749605.
Source: ERIC
(http://pdfserve.informaworld.com/912246_731200435_788100855.pdf)
This article describes the classroom of Jill Sontag and her 19 young bilingual collaborators. "Join them as they simultaneously explore the world of insects and the world of language. These curious and energetic second graders are easily drawn into the realm of bugs. Encouraging them to speak in Spanish, however, is a bit more complicated. Jill uses her professional judgment to make choices about when and how to reinforce second language acquisition and literacy in Spanish in this two-way bilingual immersion classroom. Creativity and humor are cornerstones of her pedagogical style and are maximized throughout this inquiry-based curriculum. Content and literacy are authentically interwoven as the teacher skillfully promotes bilingualism."
- **Becoming Biliterate: A Study of Two-Way Bilingual Immersion Education.** Pérez, B; 2004; Mahwah, NJ: Lawrence Erlbaum Associates; 230 pages.
Source: National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs
(http://books.google.com/books?id=UMJUhtebScC&dq=Becoming+Biliterate:+A+Study+of+Two-Way+Bilingual+Immersion+Education.&printsec=frontcover&source=bl&ots=m98Tf_A-2w&sig=49oo-HcFct_jhuyStFTqgHOUKQQ&hl=zh-CN&ei=Twx7SuzbJYHiswOxwcTvCg&sa=X&oi=book_result&ct=result&resnum=2#v=onepage&q=&f=false)
"This book describes the development process and dynamics of change in the course of implementing a two-way bilingual immersion education program in two school communities. The focus is on the language and literacy learning of Latino elementary-school students and on how it is influenced by parents, teachers, and policymakers. The book provides highly detailed descriptions, both quantitative and qualitative, of the change process at the two schools involved, including student language and achievement data for five years of program implementation that were used to test the basic two-way bilingual theory, the specific school interventions, and the particular classroom instructional practices. The book seeks to offer a comprehensive description of contextual and instructional factors that might help or hinder the attainment of successful literacy and student outcomes in both languages."

Key words and search strings used in the search:

Dual Language Immersion/Bilingual Program OR Two-way Immersion/Bilingual Program OR Two-way Immersion, AND Academic Achievement OR Language Background, OR Program Model

Search databases and websites:

Institute for Education Sciences Sites: Regional Educational Laboratory Program (REL); What Works Clearinghouse (WWC); Doing What Works (DWW); National Center for Education Statistics (NCES); Institute for Education Sciences (IES); IES Practice Guides

Other Federally Funded Sites: The Assessment and Accountability Comprehensive Center; The National High School Center; The Center on Innovation and Improvement; The Center on Instruction; National Research and Development Center for English Language Learners; National Clearinghouse for English Language Acquisition & Language Instruction Educational Programs; Education Commission of the States; Regional Comprehensive Centers; Regional Resource Centers

Additional Data Resources: Education Development Center; WestEd; ERIC; EBSCO Databases; Government Executive; <http://www.google.com>; <http://www.goglescholar.com>; general internet search

Criteria for inclusion:

When Reference Desk Researchers review resources, they consider, among other things, four factors:

1. **Date of the publication:** The most current information is included unless in the case of nationally known seminal resources

2. **Source and funder of the report/study/brief/article:** Priority is given to IES, nationally funded, and certain other vetted sources known for strict attention to research protocols;
3. **Methodology:** i.e. Random control trial studies, surveys, self-assessments, literature reviews, policy briefs, etc. Priority for inclusion is given generally to random control trial study findings; however, the reader should note at least the following factors when basing decisions on these resources: Numbers of participants (just a few? Thousands?); Selection (did the participants volunteer in the study, or were they chosen?); Representation (were findings generalized from a homogeneous or a diverse pool of participants? Was the study sample representative of the population as a whole?)
4. **Existing knowledge base:** Although we strive to include vetted resources, there are times when the research base is slim or non-existent. In these cases we have included the best resources we could find, which may include newspaper articles, interviews with content specialists, organization websites, etc.

REL Northeast and Islands

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