

# Research Feature—Executive Summary:

## The Relationship between Elementary School Foreign Language Study in Grades Three through Five and Louisiana Students' Academic Achievement on Standardized Tests

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The passage of the federal No Child Left Behind Act of 2001 established foreign languages as a core curricular content area. Nonetheless, educational policy makers at the state and local levels often opt to allocate greater resources and give instructional priority to content areas in which students, and ultimately the school systems themselves, are held accountable through high-stakes testing. Although foreign languages are designated as a core content area, instructional emphasis continues to be placed on curricular areas that are included in state educational accountability programs.

This feature highlights a study designed to explore quantitatively whether foreign language study on the part of first-year 3rd grade foreign language students who continue their foreign language study through and including the fifth grade in Louisiana public schools contributes to their academic achievement in curricular areas tested on the Iowa Tests of Basic Skills (ITBS) and the Louisiana Educational Assessment Program for the 21st Century (LEAP 21) test. Concurrently, a qualitative aim, assessed using a survey and interviews, examined how foreign language teachers of the students tested in this study perceive that they link instruction to the reinforcement of English language arts, mathematics, science, and social studies content standard skills.

### Selection of Participants

Louisiana is divided into eight geographical/educational regions composed of five to 14 parishes per region. In order to select the treatment groups, it was necessary to determine in which Louisiana schools the Foreign Language in the Elementary School (FLES) foreign language instruction begins. In Louisiana, the schools that offer foreign language instruction beginning in 3rd grade and continuing through and including at least the fifth-grade were the schools chosen for the treatment group. The classes meet for an average of 30 minutes, five days per week. To identify schools fitting this profile, 1999-2002 parish foreign language enrollment data provided by the Louisiana Department of Education was examined. Once the schools were identified, they were organized by parish and by educational region. By process of elimination, all schools not offering foreign language programs

within parishes that comprise the treatment group were identified. These schools that do not offer foreign languages were matched for socio-economic status, urbanicity, locality and school enrollment with the foreign language treatment group. It is important to note that the control group schools have been granted waivers from the Louisiana Board of Elementary and Secondary Education releasing them from the Louisiana mandated required fourth through 8th grade program of foreign language study. Typically, waivers are granted to parishes because they demonstrate to the Board of Elementary and Secondary Education that they lack funding to employ foreign language teachers.

### The Treatment Group

Schools beginning foreign language instruction in the third grade and continuing through and including at least the fifth grade were selected to be included in the treatment group since the students in these schools receive similar length of exposure to the target language. It is important to note that schools whose students learn foreign languages in immersion settings were not included in the treatment group, as their language-learning environment differs markedly from that of the FLES 3rd grade through 5th grade model.

Of the 16 identified schools that offered foreign languages, eight offered French and eight Spanish. Each of the schools comprising the treatment group employed one or two foreign language teachers responsible for teaching either French or Spanish to students in grades three through at least grade five continuously. The present research examined the academic performance on standardized test measures of these children as third-graders, and those who remained enrolled in the program as fourth-graders in 2001-2002 as well as those who continued program participation as fifth-graders in 1999-2002. Although the present study employed purposive sampling of intact groups in identifying the treatment and control groups, student-level data was used to compare achievement of students in these groups at and across grade levels.

The treatment group consisted of all students who were in the third grade during the 1999-2000 school year (n=1050), in the fourth grade during the 2000-2001 school year (n=849), in the fifth grade during the 2001-2002 school year (n=609) and who, during this three-year period, were enrolled in Louisiana public schools offering FLES-type programs commencing in the third grade and continuing through at least the fifth grade. Moreover, after beginning their foreign language study during the 1999-2000 school year, students in the treatment group remained enrolled in these FLES-type programs for second and third consecutive years.

### The Control Group

The control group consisted of students in Louisiana public elementary schools not offering a foreign language within parishes that do offer foreign language in some public elementary schools, with the exception of Lafourche, St. John the Baptist and Acadia Parishes since all elementary schools in these three parishes have foreign language programs. Therefore, treatment group schools in these parishes were matched to schools in adjacent parishes within the regions in which they are located. The control group students were in the third grade during the 1999-2000 school year (n=802), in the fourth grade during the 2000-2001 school year (n=636), and in the fifth grade during the 2001-2002 school year (n=399).

### Research Design

Students in the schools comprising the treatment and control groups were first matched with regard to the socio-economic status of the schools' student body, as evidenced by the number of students eligible for free or reduced lunch. The mean percentage of treatment group students eligible for free and reduced lunch was 70.9% and the mean percentage for the control group was 73.7%. The schools were further matched according to locality and total enrollment figures. The final factor was the schools' urbanicity. Schools were categorized either as urban, suburban, or rural for purposes of matching. In terms of finding the attributes upon which treatment and control groups were matched (figures of students eligible for free and reduced lunch, total school enrollment figures, and urbanicity), the National Center for Education Statistics' Web site was consulted in order to obtain accurate information for all schools in the control and treatment groups. Students in both groups completed three standardized tests by the time they entered the fifth-grade:

- ITBS as third-graders in 2000. Skills tested included reading (vocabulary and reading comprehension) and language (spelling, capitalization, punctuation, usage and expression);

- LEAP as fourth-graders in 2001. (Skills tested included read, comprehend, and respond to a range of materials; write competently, use conventions of language, locate, select, and synthesize information; read, analyze, and respond to literature; and apply reasoning and problem-solving skills);

- ITBS as fifth-graders in 2002. Skills tested included reading (vocabulary and reading comprehension) and language (spelling, capitalization, punctuation, usage and expression).

Therefore, it was possible to examine a fairly broad scope of the effect of foreign language study on individual student academic achievement in other subject areas. This three-year window of investigation also allowed any potential difference in outcomes on broad-based academic achievement to be evidenced as students in the treatment group were exposed to subsequent years of foreign language study.

### Results

Several important findings of this study emerged. First, and most strikingly, foreign language students significantly outperformed their non-foreign language peers on every test (English language arts, mathematics, science, and social studies) of the fourth-grade LEAP 21. Secondly, the present research suggested that regardless of the test, whether the fourth-grade criterion-referenced LEAP 21, or the 3rd and 5th grade norm-referenced ITBS, at each grade-level foreign language students significantly outperformed their non-language counterparts on tests of English language achievement. A third notable finding is that the foreign language students significantly outperformed their monolingual peers after sustained enrollment in the Louisiana Elementary Foreign Language Program. Even when significant differences in LEAP 21 and ITBS performance between language and non-foreign language groups were not detected, the foreign language students have lost nothing academically and have gained the ability to understand and use French or Spanish.

Foreign language teachers of student participants in the present study reported that the amount of instructional time they spend reinforcing other content skills was allocated on average as follows: English language arts (57%), mathematics (31%), geography (31%), and science (7%). Table 1 below indicates the percentage of weekly instructional time teachers reported spending on reinforcing English language arts, mathematics, history, geography, and science skills through foreign language instruction.

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Table 1

Reinforcing Content Area Skills through Foreign Language Lessons

% of weekly instructional time teachers estimate spending reinforcing content areas through foreign language study	Data Reported for Population	
	Mean %	Standard Deviation
reinforcing English language arts content area skills through foreign language instruction	57	18.81
reinforcing mathematics skills through foreign language instruction	32	9.19
reinforcing history skills through foreign language instruction	29	14.35
reinforcing geography skills through foreign language instruction	31	7.35
science skills through foreign language instruction	7	7.57

Teachers reported utilizing a mean of 57% (SD=18.81) of their weekly foreign language instructional time reinforcing English language arts skills. Weekly instructional time for mathematics skills reinforcement reportedly received a mean of 31% (SD=9.19). A mean of 29% (SD=14.35) of weekly instructional time was used to reinforce history skills. Geography skills were reported to have received a mean of 31% (SD=7.35) weekly instructional time. Finally, a mean of 7% (SD=7.57) of weekly foreign language instructional time targeted science skills.

The fact that a great deal of the average allocated time (57%) was devoted to building English language arts skills was reflected in the foreign language students' significantly higher language scores during the second and third years of foreign language study compared to non-foreign language students.

**Conclusion**

These findings underscore the positive effect continued foreign language study has on academic achievement and helps substantiate the view that foreign language study should commence during the early elementary grades and continue in an uninterrupted sequence throughout the course of elementary study. The findings also suggest that policies diminishing children's access to foreign language study should be reconsidered based on the findings of this and other studies indicating that foreign language study promotes academic achievement.

**References**

Armstrong, P., & Rogers, D. (1997). Basic skills revisited: The effects of foreign language instruction on reading, math, and language arts. *Learning Languages*, 2(3), 20-31.

Caldas, S., & Boudreaux, N. (1999). Poverty, race, and foreign language immersion: Predictors of math and English language arts performance. In Rosenbusch, M.H. (1999). *Learning Languages*, 5, 4-14. Washington, DC: NNELL Center For Applied Linguistics.

Cooper, T. (1987). Foreign language study and SAT-verbal scores. *Modern Language Journal*, 71(4), 381-387.

Eddy, P. (1981). *The effect of foreign language study in high school on verbal ability as measured by the Scholastic Aptitude Test-Verbal*. Washington, DC: Center for Applied Linguistics.

Garfinkel, A., & Tabor, K. (1991). Elementary school foreign languages and English reading achievement: A new view of the relationship. *Foreign Language Annals*, 24(5), 375-382.

Johnson, C., Ellison F., & Flores, J. (1961). The effect of foreign language instruction on basic learning in elementary schools. *Modern Language Journal*, 45(5), 200-202.

Johnson, C., Flores, J., & Ellison F. (1963). The effect of foreign language instruction on basic learning in elementary schools: A second report. *Modern Language Journal*, 47(1), 8-11

Lang, M. (1990). *Elementary grade-level foreign language studies and student performance on reading and language arts tests: A study of relationship by the bureau of pupil accountability for the bureau of academic support*. Baton Rouge, LA: Louisiana Department of Education.

Leino, W. & Haak, L. (1963). *The teaching of Spanish in the elementary schools and the effects on achievement in other selected subject areas*. St. Paul, MN: St. Paul Public Schools.

Lopato, E. (1963). FLES and academic achievement. *French Review*, 36, 499-507.

Masciantonio, R. (1977). Tangible benefits of the study of Latin: A review of research. *Foreign Language Annals*, 10, 375-382.

Potts, M. (1967). The effect of second language instruction on the reading proficiency and general school achievement of primary grade children. *American Educational Research Journal*, 4, 367-373.

Rafferty, E. (1986). *Second Language Study and Basic Skills in Louisiana*. Baton Rouge, LA: Louisiana Department of Education.

Wiley, P. (1989). *The impact of high school foreign language study on academic success in college: A 1989 research update*. Little Rock, AK: Paper presented at the annual meeting of the Mid-South Educational Research Association.