



The Brain Benefits of Learning a Second Language

Cathleen Skinner, Ph.D.

Director of World Languages Other Than English
Oklahoma State Department of Education

[Link: Presentation](#)



Cathleen Skinner

Director of World Languages

cathleen.skinner@sde.ok.gov

405-521-3035 [Link to presentation](#)

The Brain Benefits of Learning a Second Language: Session Goals

- **Explore** the brain benefits of learning a second language.
- **Consider** how effective world languages programs changes students' lives and schools' performance.
- **Examine** steps schools/districts can take to provide access to effective language instruction.

WHAT RESEARCH SHOWS ABOUT THE BENEFITS OF LANGUAGE LEARNING

Review of significant research on learning a second language shows that this process develops the brain in unique ways and leaves no doubt that ALL students should be learning a second language in early childhood.

THREE MAJOR AREAS OF DEVELOPMENT THAT ARE SUPPORTED BY SECOND LANGUAGE ACQUISITION

1. Academic Achievement

THREE MAJOR AREAS OF DEVELOPMENT THAT ARE SUPPORTED BY SECOND LANGUAGE ACQUISITION

1. Academic Achievement
2. Cognitive Development

THREE MAJOR AREAS OF DEVELOPMENT THAT ARE SUPPORTED BY SECOND LANGUAGE ACQUISITION

1. Academic Achievement
2. Cognitive Development
3. Attitudes and Beliefs about language learning and other cultures, and self-efficacy.

Academic Achievement: Study 1

- **Third-grade** students
- One group **randomly assigned** to 30-minute Spanish lessons
- 3 X a week for one semester.
- Focused on oral-aural skills
- Conducted entirely in Spanish.



Academic Achievement Study 1: Results

Students in the Spanish classes scored significantly higher than the group that did not receive Spanish instruction in math and language on the Metropolitan Achievement Test (MAT).

Academic Achievement: Study 2

Planning, development, implementation, and assessment of the foreign language magnet plan in schools in the Kansas City, Missouri Public School District.

Academic Achievement Study 2: Results

Outcomes appeared to support research that, over time, second language learners:

- (1) have improved test scores
- (2) are able to think divergently
- (3) achieve in their first language
- (4) attract and maintain parent involvement.

Academic Achievement: Study 3

Comparison of verbal Scholastic Aptitude Test (SAT) and California Achievement Test (CAT) scores of high school students who had or had not taken at least one year of foreign language study.

Academic Achievement Study 3: Results

Support the conclusion that length of foreign language study was positively related to high SAT verbal scores.

How can Your School/District Leverage World Languages for your Students' Academic Achievement?

- Take five minutes to **write down** your reaction, and respond to the questions above and below.
- What do you **already have in place** to bring these kinds of academic benefits to your students, school, district?
- **What do you need** to support these kinds of results?

Turn and Share



Turn to the people around you and share your responses to the questions you just answered.

Cognitive Benefits: Study 1

Comparison of two groups for nonverbal problem-solving and native-language development.

- a second grade additive-bilingual (Spanish-immersion) classroom
- a second - grade monolingual classroom

Cognitive Benefits Study 1: Results

- Significant differences in problem solving in favor of the bilingual class
- No significant differences in native-language development.

Cognitive Benefits: Study 2

Hypothesis: Experience of learning a second language at the elementary school level is positively correlated to divergent thinking in figural tasks.

Cognitive Benefits: Study

Details: Comparisons made between second language learners and monolingual learners to examine students' flexibility in thinking.

Cognitive Benefits Study 2: Results

The second language learners scored significantly higher than the monolingual students.

Conclusions: Second language learning appears not only to provide children with the ability to depart from the traditional approaches to a problem, but also to supply them with possible rich resources for new and different ideas.

Cognitive Benefits: Study 3

Study:

1. Investigated the effects of bilingualism on the cognitive development and linguistic performance of children at various ages living in the same cultural environment.
2. The relationship between formal operational thought and a preferred cognitive style - field independence/field dependence - for both bilingual and monolingual subjects.

Cognitive Benefits: Study 3

Details:

- Bilingual subjects tested for both language dominance and language proficiency.
- Included both verbal and non-verbal tests of cognition to investigate the interrelationships between bilingualism and cognitive function.

Cognitive Benefits Study 3: Results

No significant differences in performance could be attributed to lingualism, grade, or age **with the exception of language proficiency correlated with cognitive level on analytical reasoning.**

Cognitive Benefits Study 3: Results

Among the results, **the bilingual children used higher order rules more frequently than the monolingual children. The evidence seems to suggest that bilingualism may scaffold concept formation and general mental flexibility.**

Developing Reading Skills: Study 1

Experiment:

Looked at the relationship between the length of elementary foreign-language education and English reading achievement .

Developing Reading Skills: Study 1

Details:

- Four-year study with 672 students
- Varying intelligence levels.
- Midwestern elementary school
- Administered reading tests after they had received two or four years of foreign-language instruction - up to sixth grade

Developing Reading Skills Study 1: Results

Students of average intelligence profited most from the two extra years of instruction in foreign language in terms of their English reading skills.



Considering the studies we've reviewed and your own classroom experiences, how does world language instruction support academic and career readiness for your students?

How could adding or increasing World Languages at the elementary level help your students, school and district?

Five Minutes for Independent Thinking

- 1) **What steps** can your school take to integrate world languages into the curriculum?
- 2) **How** can you help?
- 3) **Who** are the stakeholders that need to be involved?
- 4) **What** do they need to support world languages?

Improving Oklahoma's Position

In general it is asserted that the earlier the language is introduced, the more rapidly children stand to reap the benefits. FLES & FLEX instruction programs are considered as models, & content-based instruction is cited as most effectively transmitting the communicative & semantic nature of a foreign language to children.

Impact on Attitudes and Beliefs : Study 1

Study comparing language skill development and cultural attitudes of second-grade children taught in an additive-bilingual program setting with those of second-grade children from a monolingual classroom setting.

Impact on Attitudes and Beliefs : Study 1

Researchers hypothesized that the Spanish-immersion group would be more positive than the control group on the Cross-Cultural Attitude Inventory (CCAI), an instrument that is a measure of attitudes toward Mexican-American culture.

Attitudes and Beliefs Study 1: Results

Analysis revealed a significant change in attitudes towards Hispanic culture between the fall and spring administrations in favor of the Spanish-immersion group.

Attitudes and Beliefs Study 1: Results

The authors suggest results support Gardner's model of language acquisition which proposes that attitudes towards the target language community may be outcomes of second language learning.

Impact on Attitudes and Beliefs : Study 2

Meta-analysis of Research

D.E. Ingram (2004) refers to meta-analysis by Morgan as “one of the most comprehensive reviews of the relations between foreign language learning and attitude change.” (p.3 of Ingram’s paper).

Impact on Attitudes and Beliefs : Study 2

Meta-analysis of Research

Morgan reviews articles from as early as 1932 and concludes that a number of factors are important if positive attitude changes occurred.

Additional research shows a correlation between language learning and students' ability to hypothesize in science.

Correlation Between Language Learning and Students' Ability To Hypothesize In Science

Study examined the consequences of bilingualism on:

- children's ability to formulate scientific hypotheses or solutions to science problems
- interactions of this ability with aspects of linguistic competence.

Correlation Between Language Learning and Students' Ability To Hypothesize In Science

Experimental group treatment:

- 12 science inquiry film sessions
- 6 discussion sessions
- all taught by the same teacher in English.

Correlation Between Language Learning and Science: Results

The quality of scientific hypotheses and the complexity of the language used to express them were found to be significantly higher for both experimental groups than for the control groups.

Correlation Between Language Learning and Science: Results

The bilingual children, given the same instruction by the same teacher in formulating scientific hypotheses, consistently outperformed monolingual children both in the quality of hypotheses generated and in the syntactic complexity of the written language.

LANGUAGE LEARNING CAN BENEFIT ALL STUDENTS

Study: A program of half-day French immersion in kindergarten was evaluated. The English and French language development of 122 native English-speaking children from both working and middle class backgrounds was assessed.

LANGUAGE LEARNING CAN BENEFIT ALL STUDENTS:

Results

1) The 73 experimental students progressed just as well in English as 70 matched controls who followed a conventional all-English program.

LANGUAGE LEARNING CAN BENEFIT ALL STUDENTS:

Results

2) The socioeconomically underprivileged students (both Black and White) benefited from an immersion in a foreign language as much as middle class did.

LANGUAGE LEARNING CAN BENEFIT ALL STUDENTS:

Results

3) Progress in French (the second language) was NOT linked with social class,

4) However, this background factor clearly affected performance on the English language tests.

Will you be your students' champion?



Stay Connected: Woova App

- Access handouts
- Up-to-date schedule
- Post photos
- Rank sessions





Cathleen Skinner

Director of World Languages

cathleen.skinner@sde.ok.gov

405-521-3035