Research conclusions on the benefits of foreign language study or bilingual knowledge prior to and during a student's university career:

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"Personal Benefits of Foreign Language Study." ERIC Digest

"... data from the Admission Testing Program of the College Board show a definite positive correlation between ... [SAT] scores and the study of foreign languages... students who had taken no foreign language in high school achieved a mean score of 366 on the verbal portion of the SAT, and 409 on the math portion. Students who had taken only one year of a foreign language had slightly higher scores (378 and 416), whereas students with two years of foreign language showed more dramatic increases (417 and 463). Each additional year of language study brought a further rise in scores, with students who had studied a language for five years or more achieving an average of 504 on the verbal and 535 on the math portion of the exam.

Kessler, C., & Quinn, M. E. (1980). Positive effects of bilingualism on Science problem-solving abilities. In J. Alatis (Ed.), *Georgetown Universityround table on languages and linguistics* (pp. 295-308). Washington, DC: Georgetown University Press, from Linguistics and Language Behavior Abstracts database.

Examined are 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. . . . 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.

Olsen, S.A., Brown, L.K. (1992). "The relation between high school study of foreign languages and ACT English and mathematics performance." *ADFL Bulletin, 23*(3), from ERIC database.

Analysis of the American College Test (ACT) scores of 17,451 students applying for college admission between 1981 and 1985 found that high school students who studied a foreign language consistently scored higher on ACT English and

mathematics components	than did	students	who	did not	study	a foreign	language
in high school.					Í	J	3 - 3 -

Timpe, E. (1979)."The effect of foreign language study on ACT scores. "ADFLBulletin, 11(2), 10-11.

School records of 7,460 students at Southern Illinois University at Carbondale were analyzed to assess the extent to which foreign language study correlates with ACT scores. Students were selected on the basis of having ACT scores on file and having answered survey questions about their previous foreign language study. To control for intelligence, students were divided into a "more gifted" group (GPA of 3.0 or higher, college preparatory program, top quarter of their class) and a lower group not meeting the stated requirements. [The study concludes] the more gifted students were more likely to take foreign languages, but that for each group, years of study led to improved composite ACT scores, with the highest effect on scores in the English subsection of the test.

Wiley; Eddy; Bastian; Timpe; Skelton; Olsen and Brown.

. . . detailed study of interrelations among parts. . . reveals, as suggested by Jarvis, that the mental processing skills required to do mathematics problems are also developed by language processing and vice versa.

The study of another language affects academic areas as well. Research has shown that children who have studied a foreign language in elementary school achieve higher scores on standardized tests in reading, language arts, and mathematics than those who have not (Masciantonio, Rafferty). The results of the Louisiana Report on foreign language and basic skills (Rafferty) show that regardless of their race, sex, or academic level, students in foreign language classes outperformed those who were not taking foreign languages. Foreign language study has also been shown to enhance listening skills and memory, and the development of second language skills can contribute a significant additional dimension to the concept of communication. Furthermore, students who have studied a foreign language develop greater cognitive skills in such areas as mental flexibility, creativity, divergent thinking and higher order thinking skills (Foster and Reeves; Landry; Rafferty; Ginsburg and McCoy).