Statistically speaking

Researcher finds link between bridge and improved test scores in children.

Do children who play bridge perform better on standardized tests than their non-playing counterparts? Dr. Christopher Shaw, a researcher from Carlinville IL, recently completed a study that shows the answer to that question is a definite "yes."

Many bridge players have long believed that teaching kids bridge improves their critical thinking skills, but the evidence that it helped with school performance has been largely anecdotal. Shaw decided to take a more serious look at the impact that bridge has on test performance by school-age children.

In a 2005 study, Shaw examined six groups of fifth graders from the Carlinville Public Schools who were similar in academic ability. One group learned to play bridge as part of its math instruction, but the other five did not. All of the students took the Iowa Test of Basic Skills (ITSB) in Sept. 2001 (before bridge instruction began) and then again in May 2003 (sixth grade) and in May 2004 (seventh grade). The 15 students who learned to play bridge as fifth graders were mixed with the other students in the sixth and seventh grades.

Performance on the ITSB increases as students get older: sixth graders, as a group, outperform fifth graders, for example. Educators and parents pay great attention to the improvement of scores from year to year. What Shaw discovered, however, was that the students who learned to play bridge had a greater average increase in their ITSB scores than their non-playing classmates.

The following table compares the average standard score (SS) gain of the bridge and non-bridge groups:

ITBS Subject Area	86 Non-bridge Av. SS Gain	15 Bridge Av. SS Gain	% Increase
Reading	33.87	40.87	20.66
Language	45.04	51.07	13.39
Math	41.48	51.53	24.22
Science	37.52	52.27	39.31
Social Studies	36.77	45.13	22.74

Why would learning to play bridge have such an effect? Shaw believes the answer lies with inferential reasoning, a cognitive skill necessary to play the game.

"Bridge is a game that develops inferential reasoning skills, which are very difficult to teach elementary students. These skills appear to be used in all five subject areas in middle school."

With the help of system analyst Terry Levan, who obtained a three-year grant from the ACBL Educational Foundation, Shaw expanded his study to three sequential classes of fifth graders (2001–2003) taught by the same instructor. The 2001 group was taught bridge, but the 2002 group was not. The 2003 group was also taught the game.

Shaw examined each group's results on the ITSB over a three–year period. The first two tests were given 20 months apart; 32 months elapsed between the first and last test. Shaw compared the results in this table:

Year	Reading	Math	Social Studies	Language	Science
20-Month Average Test Score Gains					
2001 (Bridge)	21.47	25.20	21.99	18.03	40.27
2002 (Non-bridge)	17.43	24.26	14.31	30.52	29.79
2003 (Bridge)	28.50	34.95	24.17	32.11	24.67
32-Month Average Test Score Gains					
2001 (Bridge)	40.87	51.53	30.49	22.72	52.57
2002 (Non-bridge)	23.37	36.42	25.15	30.05	36.05
2003 (Bridge)	39.72	45.67	32.50	37.17	45.11

The 2001 bridge students had higher test scores than the 2002 students at the end of 20 months and 32 months in four of the five subject areas. The language gain was less than the 2002 non-bridge students.

The 2003 bridge students out-gained the 2002 class in four of the five subject areas after 20 months (science scores were lower than the 2002 group), but exceeded the 2002 group in all areas after 32 months. ❐