



Does Block or Traditional Scheduling Affect Students' Success in Language Programs?

Report by

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Question:

I am wondering if you have done any research on student language proficiency results based on the instructional scheduling model, such as a comparison of results for students with a traditional school day versus block schedule. Is such information available?

Answer:

Since the 1980s, educators have debated the benefits of organizing students' class time according to different types of schedules. Many schools have replaced the traditional schedule, in which classes meet forty to fifty-five minutes each school day, with a block schedule, which meets for twice as many minutes every other school day.

Little research has been done to determine the effect of scheduling on student outcomes in foreign language programs. One study by Wallinger (1998) did look at end-of-course performance by French I students who had studied the language on a traditional schedule or one of two types of block schedule. She found no significant difference in the students' performance levels in listening, reading, speaking, or writing.

Here, we present results based on the Standards-based Measurement of Proficiency (STAMP) results for high school students in first- and second-year Spanish programs. Our main finding is that students do equally well in either of the two programs after two years of instruction.

Research Summary:

Depending on the language skill, we found that traditional programs were two or three times more successful in getting their students to benchmark level 3 or better in the first year of the program. However, by the second year, programs with traditional and block schedules showed similar results. Too much should not be made of the difference in the first year programs. Although we had data from 116 students in their first year with block scheduling, they represented only five different schools. With more students from a larger number of schools, the year one effect might disappear.

Even if the first-year differences for program type show up in a larger study, districts will have to decide how this information should be used. The comforting conclusion is that by the second year, differences between programs disappear. If districts can keep students in their programs for two years, scheduling does not affect proficiency. This finding suggests that the considerations for foreign language schedules should revolve around which schedule is most convenient given other issues that the district faces.

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Data Analysis:

We selected students from the 2008-09 STAMP database who were in the first or second year of a language program in a U.S. high school. Teachers had supplied information about the hours of instruction each week and the type of schedule their schools used. We selected only students in block or traditional programs that offered five hours of instruction each week all year long (for a total of approximately 180 hours of instruction per year). After checking the number of students available for each language and each schedule type, we limited the study to Spanish students. For other languages, there were too few students for some combinations of schedule and years of study.

The final dataset contained reading scores for 2,159 students. Of these, 1,850 had also taken the writing portion of STAMP, and 1,659 had taken the speaking portion. The students were enrolled in 93 classes situated in 46 schools in 34 districts and 15 states. Thus, although this study is based on a convenience sample, it represents a regionally diverse cross section of U.S. high schools.

STAMP results are reported on the benchmark scale, where descriptions for levels ranging from 1 to 6 are based on the descriptions of ACTFL levels Novice-Low to Intermediate-High. To make understanding the results of the scheduling question easier, we counted the number of students who scored 3 or better and compared them with the number who scored 2 or less for each type of program and number of years of study.

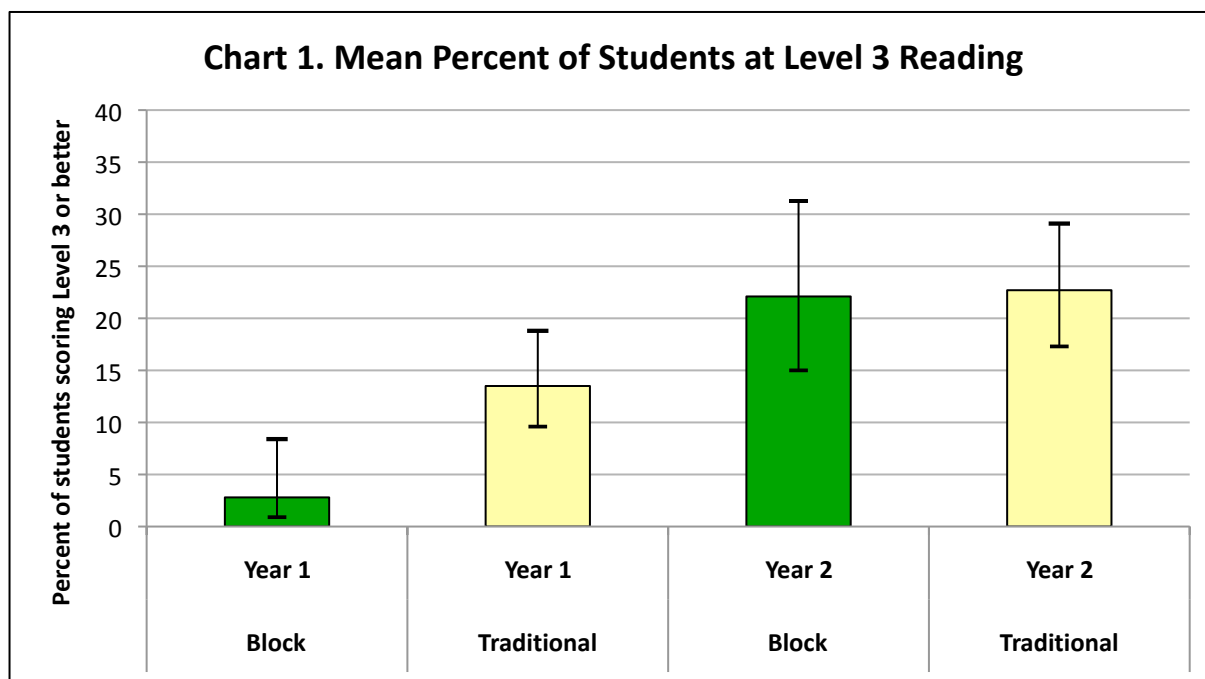
We used the SAS statistical software to estimate the mean percentages for each schedule (block or traditional), year of study (1 or 2), and language skill (reading, writing, or speaking). These are shown in Table 1 and graphed in Charts 1 to 3.

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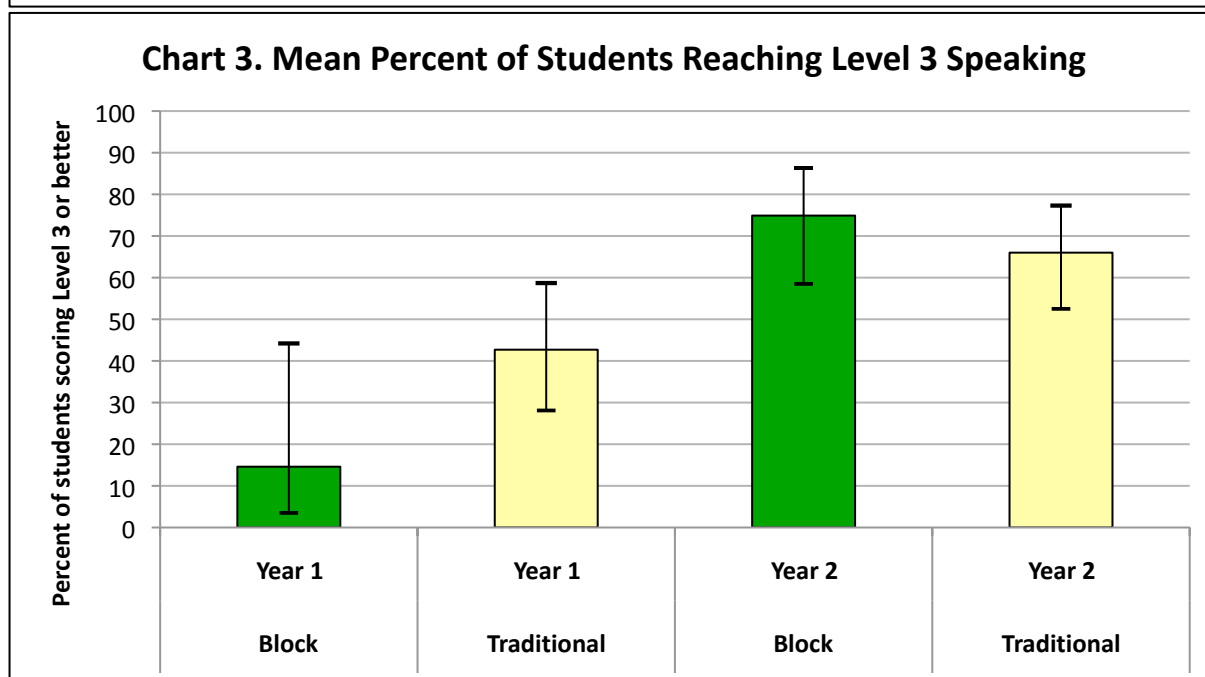
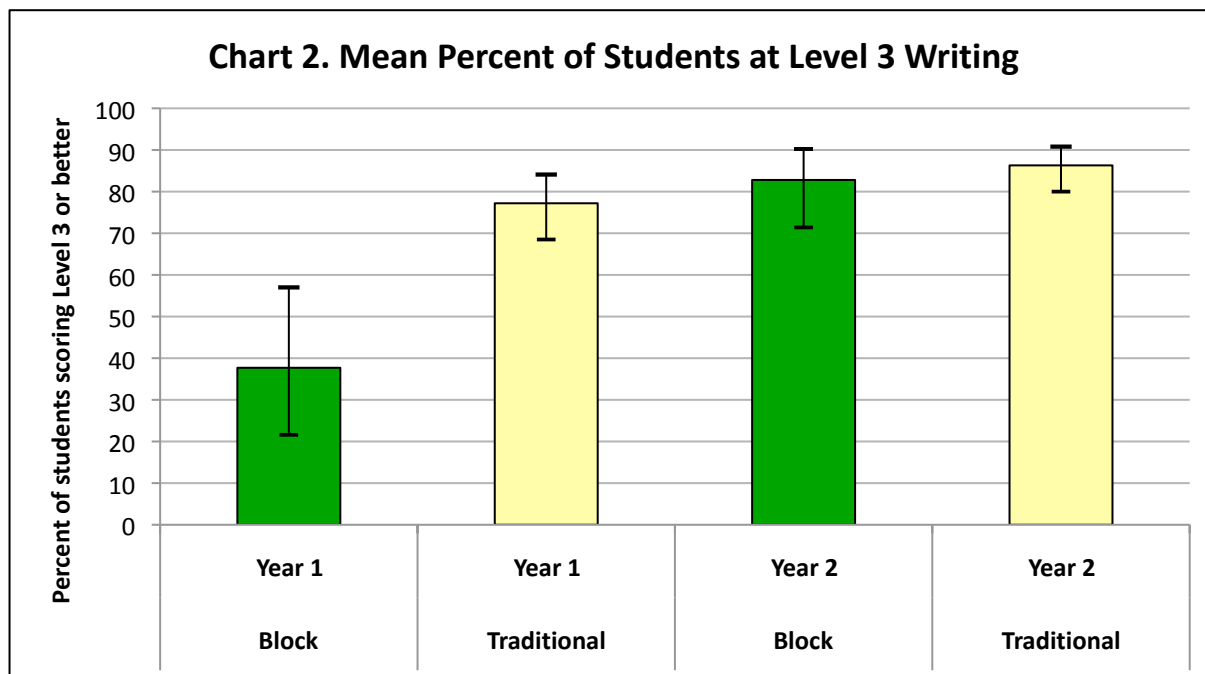
Table 1. Percent of Students Scoring 3 or Better on STAMP by Schedule, Years of Study, and Skill

Schedule	Year	Lower Bound*	Estimated Mean	Upper Bound
Reading (n=2159)				
Block	1	0.9	2.8	8.4
Traditional	1	9.6	13.5	18.8
Block	2	15.0	22.1	31.3
Traditional	2	17.3	22.7	29.1
Writing (n=1850)				
Block	1	21.6	37.7	57.0
Traditional	1	68.5	77.2	84.1
Block	2	71.4	82.8	90.3
Traditional	2	80.0	86.3	90.8
Speaking (n=1659)				
Block	1	3.5	14.6	44.2
Traditional	1	28.1	42.7	58.7
Block	2	58.5	74.9	86.3
Traditional	2	52.5	66.0	77.3

*Bounds are 95% confidence bounds



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We used the GLIMMIX procedure in the SAS statistical software to test whether the differences among the means were statistically significant. Schedule and year were treated as fixed effects, and students and classes were treated as random effects with students nested within classes. For reading and writing, there were statistically significant interactions between schedule and year, indicating that the difference between programs were different in the first year compared to the second year. For speaking, this interaction almost reached the $p < .05$ level of significance. We

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used contrast tests to compare the programs within each year. The results showed that the second-year proficiency results do not differ from each other in either program for any skill. In the first year, however, traditional programs were significantly better at getting their students to benchmark 3 or better in reading and writing (at $p < .05$ level of significance). Speaking results in first-year programs would be significant at $p < .10$. These tests are summarized in Table 2. These results show that, if block versus traditional scheduling affects foreign language at all, the effect disappears after a second year of instruction. Note that the main effect of year is significant for all language skills. No matter what type of scheduling a program uses, a second year of instruction leads to higher levels of language proficiency compared to only one year of study.

Table 2. Mixed Model Tests of Fixed Effects (Schedule and Year)

Effect	Num <i>df</i>	Den <i>df</i>	<i>F</i> Value	Pr > <i>F</i>
Reading (n=2159)				
Schedule Main Effect	1	229.40	6.35	0.0124*
Year of Study Main Effect	1	229.40	18.31	<.0001*
Program*Year of Study Interaction	1	229.40	5.87	0.0162*
Year 1 Programs contrast	1	365.80	7.47	0.0066*
Year 2 Programs contrast	1	61.44	0.01	0.9100
Writing (n=1850)				
Schedule Main Effect	1	60.97	10.89	0.0016*
Year of Study Main Effect	1	60.97	20.01	<.0001*
Program*Year of Study Interaction	1	60.97	5.87	0.0184*
Year 1 Programs contrast	1	57.63	14.67	0.0003*
Year 2 Programs contrast	1	65.63	0.44	0.5116
Speaking (n=1659)				
Schedule Main Effect	1	59.94	1.19	0.2791
Year of Study Main Effect	1	59.94	15.98	0.0002*
Program*Year of Study Interaction	1	59.94	3.98	0.0506
Year 1 Programs contrast	1	59.98	3.14	0.0815
Year 2 Programs contrast	1	59.80	0.85	0.3613

*Significant at $p < .05$.

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