

EPRS8530 Project 2 Cover Page

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2. ACT Performance: Formal Test Prep course students vs. Non-Test Prep students
3. General Interest
4. Inferential statistics, Independent t test
5. Collected data from the school where I am employed

Problem

The purpose of this study is to compare student performance on the ACT exam between two groups of students: one group that took a formal Test Prep Course during the summer and a second group that did not take the formal Test Prep Course.

Data

Student	Group	ACT
1	2	27
2	1	30
3	1	34
4	1	27
5	2	25
6	2	28
7	2	26
8	1	28
9	1	30
10	2	30
11	1	25
12	2	26
13	1	34
14	2	26
15	2	28
16	2	31
17	2	24
18	2	24
19	2	21
20	1	30
21	1	27
22	1	31
23	1	31
24	1	33
25	1	33
26	1	33

27	1	28
28	2	28
29	2	27
30	1	33
31	2	25
32	2	23
33	2	21
34	1	31
35	1	33
36	1	30
37	2	29
38	2	27
39	2	29
40	1	30
41	1	27
42	2	25
43	1	29
44	1	30
45	1	28
46	2	23
47	1	29
48	1	35
49	2	32

Introduction / Description

This study compares performance on the ACT college entrance exam between students who took a formal test prep course and students who did not attend a test prep course. A total of forty nine graduating students in the Class of 2012 at a selective independent school were involved in this study. This study investigates whether students in the formal test prep course performed statistically better than students who did not take the course. The school is a highly selective, independent school that sends 100% of their graduating seniors on to 4-year colleges. All students in the graduating class sit for the ACT exam.

Method

Students attending this school receive a college preparatory education throughout their high school program. Course instruction focuses on knowledge production, critical thinking and reasoning, and career exploration. Generally, all students perform well on college entrance exams compared to national standards. Students sit for SAT and ACT exams during their junior year of high school. During the summers, students have the opportunity to participate in a test prep course offered at the school. The test prep group consisted of 26 students and the control group consisted of 23 students. Student performance on the nationally normed test will be compared using a two-tailed independent t-test with $\alpha=.05$ and the results are described below.

Results and Discussion

Table 1 presents the means and standard deviations by group. The results show that students in the Test Prep group scored about 4 points higher on the ACT exam ($M = 30.35$) than the students in the control group ($M = 26.30$). This mean difference resulted in the effect size of 1.48 (Cohen's d), which is considered to be large. The students in the test prep group had similarly consistent scores ($SD = 2.59$) to the students in the control group ($SD = 2.91$).

Since the measurements in the test prep group and control group were unrelated to each other, an independent t test was performed. The assumption of homogeneous variances was satisfied (Levene's test, $F = .249, p = .620$). The mean score for the test prep group was significantly higher than the mean score for the control group, $t (.05, 47) = 5.14, p < .001$.

Table 1
Mean ACT Scores Per Person
and Standard Deviations

Group	M	SD
Control	26.3	2.91
Test Prep	30.4	2.59

The summer test prep course that the test prep group participated in had a significant and positive effect on ACT performance. Therefore, it is appropriate for all students in the school to attend the summer test prep course.