

Does Where You Sit Affect What Grade You Get?

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Why This

We all sit in different places in class

Stereotype of kids who sit in the front get the better grade

People who sit in the back don't pay attention

What type of survey did we do?

We used Simple Random Convenience Sample Strategy

Population: Grossmont College students

Variables: Gender, # of units, years at Grossmont, GPA, Seat preference, Type of classes

G R O S S M O N T
C O L L E G E



What result we were expecting

Students who sit in the front can get the same type of grades as students who sit in the back.

Data:

Row	Response_ic	Sex	#of Units	GPA	Seat Prefere	Q4 Other	Class Math	Q5: Science	Q5: History	Q5: Social S	Q5: English	Q5: Art	Q5 Other
1	834858	Female	9	3.2	Front		0	0	0	0	0	0	
2	834859	Female	8	3.2	Front		1	0	0	1	0	0	
3	834871	Female	13	2.5	Back		1	1	0	1	0	0	
4	834875	Female	15	3.83	Front		1	0	0	0	0	0	Art, English,
5	834916	Female	17	3.8	Back		1	1	0	1	0	0	
6	834947	Female	13	3.5	Front		1	0	0	1	0	0	English
7	834991	Male	13	3.8	Front		1	0	0	1	0	0	Language
8	835004	Female	14	3.7	Back		1	0	1	1	0	0	
9	835133	Male	16	4	Front		1	0	1	0	0	0	English, Pho
10	835156	Male	9	3	Back		1	1	0	0	0	0	
11	835225	Female	14	4	Front		1	1	1	0	1	0	
12	835237	Female	12	3.5	Back		1	0	0	1	1	0	
13	835241	Female	15	3.83	Front		1	0	0	0	0	1	Spanish, Eng
14	835485	Female	10	2	Front		1	1	0	0	0	0	
15	836036	Female	12	3.3	Back		0	1	0	1	0	0	German
16	836109	Male	12	2.9	Front		1	1	0	0	0	0	German
17	836144	Female	14	3.1	Back		1	0	0	0	1	0	
18	836259	Male	7	3	Back		1	0	0	0	1	0	
19	836968	Male	6	2.8	Back		1	0	1	0	0	0	
20	838751	Male	6	2	Back		1	1	0	0	0	0	
21	838752	Male	13	3.4	Back		1	0	0	1	1	0	
22	838778	Male	15	3.22	Back		1	0	0	0	0	0	Finance/Bus
23	838980	Female	12.5	3.5	Back		0	1	1	0	0	0	

Results we got

Majority of responses where female 14/23

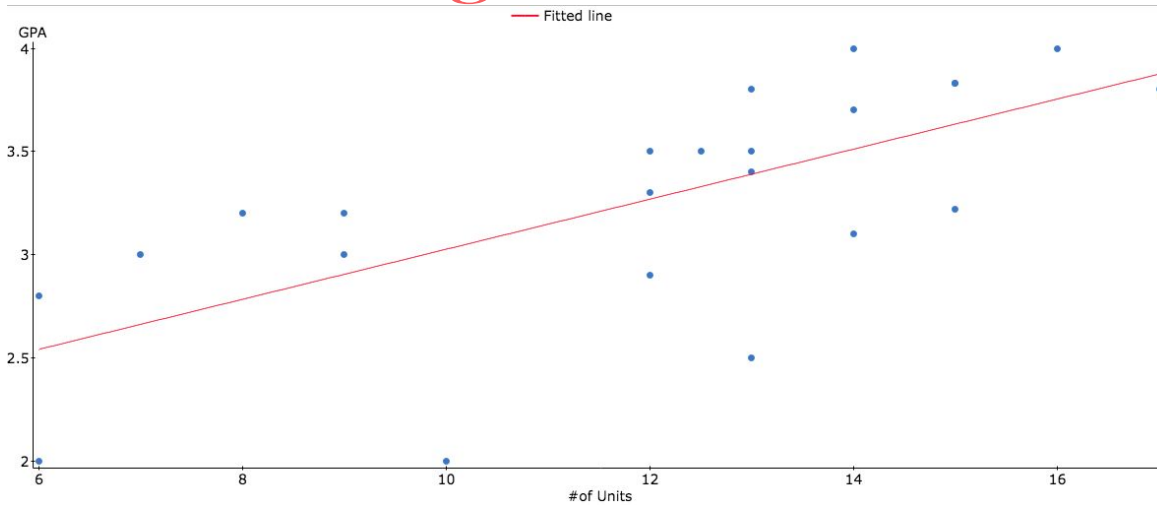
17 where taking more than 10 units

20 people above a 3.0 GPA

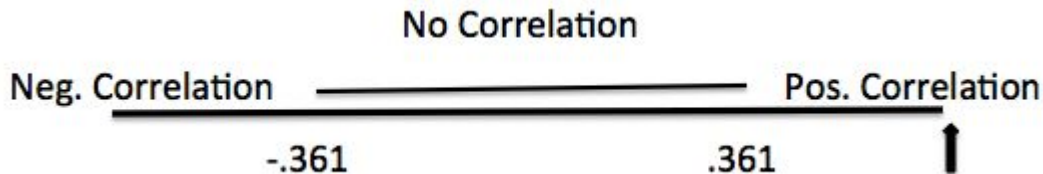
13 students sit in the back

3 students took an English class, 20 Math class, 9 Science, 5 History

Linear Regression



$r = .681$ GPA and number of units



Simple linear regression results:

Dependent Variable: GPA

Independent Variable: # of Units

GPA = 1.8098294 + 0.12142985 # of Units

Sample size: 23

R (correlation coefficient) = 0.68059533

R-sq = 0.46321

Estimate of error standard deviation: 0.42236515

Parameter estimates:

Parameter	Estimate	Std. Err.	Alternative	DF	T-Stat	P-value
Intercept	1.8098294	0.35285005	≠ 0	21	5.1291744	<0.0001
Slope	0.12142985	0.028525223	≠ 0	21	4.256929	0.0004

Analysis of variance table for regression model:

Source	DF	SS	MS	F-stat	P-value
Model	1	3.2327265	3.2327265	18.121444	0.0004
Error	21	3.7462387	0.17839232		
Total	22	6.9789652			

Hypothesis //

Does Seating Preference Influence GPA?

In order to test our hypothesis that seating preference does not affect GPA we compared the mean GPA for the students who prefer to sit in the front with the mean GPA for the students who prefer to sit in the back.

We used a 2 sample T Test.

Hypothesis:

$$H_0: \mu_1 = \mu_2$$

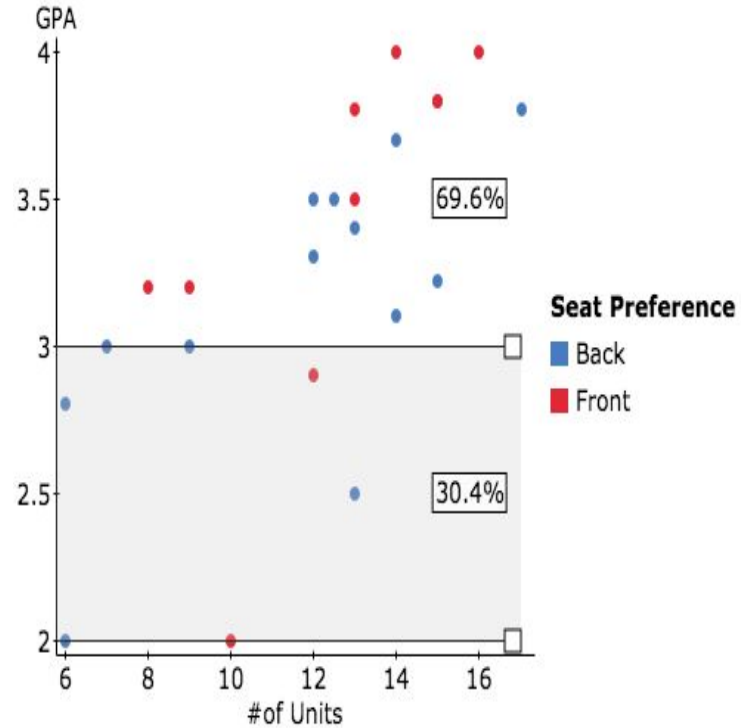
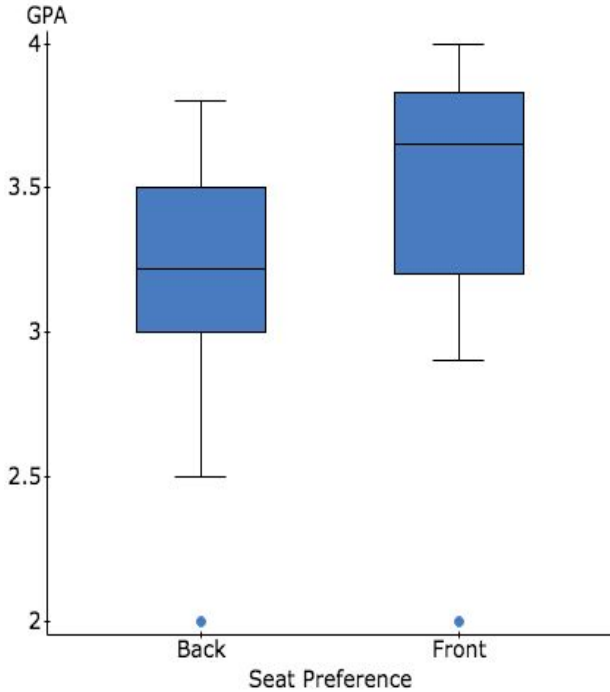
$$H_1: \mu_1 \neq \mu_2$$

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}} \quad \text{where}$$

df = smaller of $n_1 - 1$ or $n_2 - 1$
 σ_1 and σ_2 unknown and not assumed equal

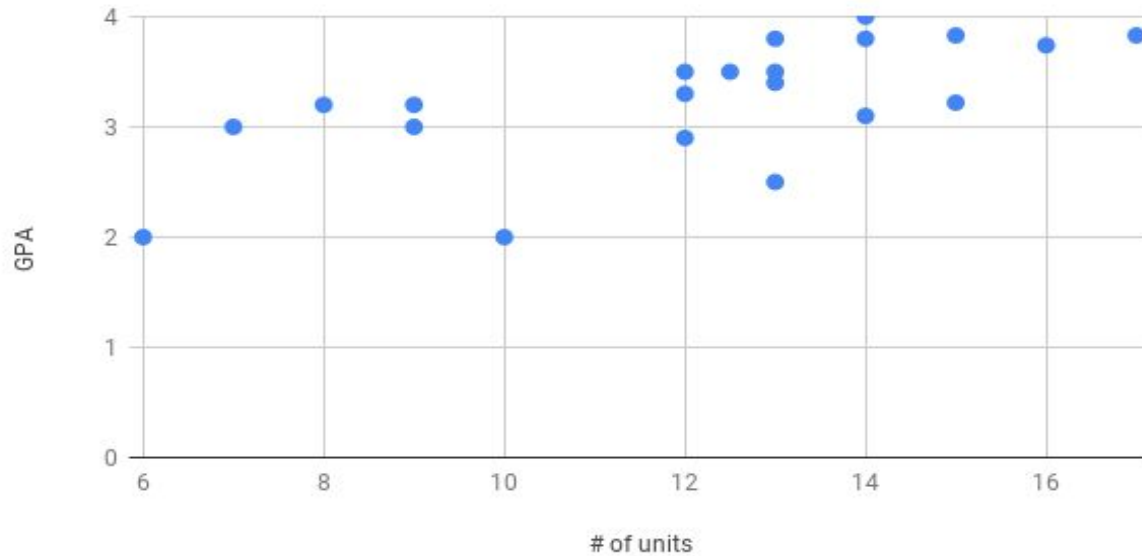
Seat preference vs

GPA



GPA vs #of units

GPA vs. # of units



Conclusion

$$t = .708 \quad \alpha = .05$$

$$p = .4866 > .05 \quad (\text{p value is greater than } \alpha)$$

critical values ± 2.26

Fail to reject H_0

There is not sufficient evidence to warrant rejection of our claim that the mean GPA for the students who sit in the front of the class is the same as the students who sit in the back of the class.

