

# The Impact of Guided Inquiry Learning in the Chemistry Classroom

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**Background** - Higley High School is located in Gilbert, Arizona in the southeast corner of the Phoenix metro area. Ten years ago, the area was primarily agricultural but today, the population is mainly suburban. Our school is economically and ethnically diverse with a population of roughly 1800 students. Our district is rated as the top large school district in the state based on state assessments from last year.

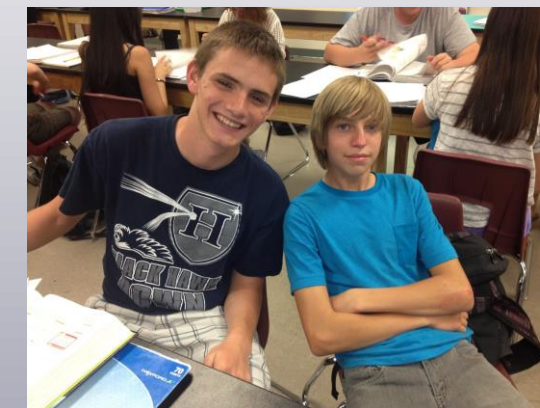
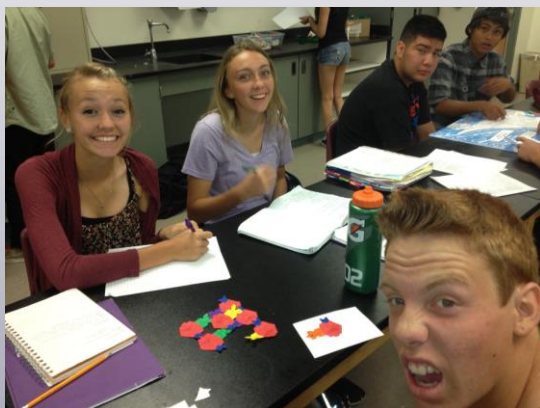
My classes range from 37 to 44 students. Approximately 80% of my students are freshmen as chemistry is offered as a freshmen class. Most of these students are taking Algebra I and II while taking Chemistry, therefore, my students are often learning both chemistry and algebraic skills for the first time in my classroom.

## Focus Questions

Will Inquiry Based Instruction Increase Student Learning?

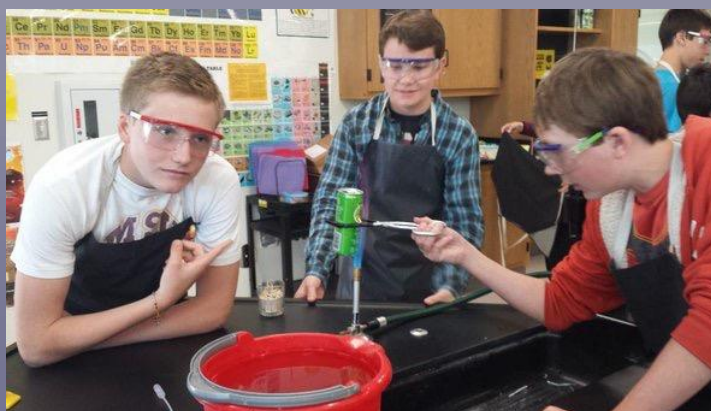
Will Inquiry Based Learning Improve Student Attitudes Toward Learning Chemistry?

<u>Results</u>	Untreated Scores	Treated Scores	% Improvement
Survey	76.1	87.3	+13%
Unit Exam	31.2	35.4	+12%
Midterm	58.3	62.4	+7%
Final Exam	61.4	64.9	+5%



## Methodology

In the treatment portion of this study, students were asked to develop labs to solve questions relating to stoichiometry and gas laws. Measurement of student attitudes and understanding are measured through pretests, post tests, student surveys, student interviews and district assessments.



## Conclusions

Inquiry learning showed significant gains in both student scores and in student outlook towards science and chemistry.

Positive student attitude towards lessons was evident on a daily basis and performance on unit test and district assessments improved with inquiry learning.