# The relationship between middle school student’s grades and math quizzes.

CSUSB

Group members: Liheng Lin, Mengzhe Wang

11/30/2015

**Introduction**

 **Challenge/Problem**

In Asia, education has always been a priority for parents, because the competition is very intense in the society. Many parents have faith in higher education; they believe their children can get better future with higher education. Therefore the first thing parents care about is how high the scores that their children get from school. Teachers then carry the same pressure as the children do, because parents have such high expectations hence teachers have big weights of responsibility.

We are going to find out whether quizzes can improve students’ scores and understanding. The background of our project is Tian-Jin Yao Hua Middle School. We study two same level classes; one is with quizzes while the other is not in order to compare if quizzes can improve students’ scores or comprehension. The time length is a section during a semester while a teacher is teaching Pythagorean section. So we can compare two classes that are given different teaching methods.

**Literature Review**

The literature is related to the implement of quizzes based on 19 mathematics classes in 5 high schools in 3 states were studied, the result based on different quizzes frequency which will influence students’ final grades efficiently. The highest frequency quizzes mathematic could make students’ final grades to be the highest, and the contrary situation in non-quizzes mathematic class. In addition, the teachers' knowledge , as well as the content and textbook , also could influence the characteristics of test items and other assessment instruments. (Senk, Beckmann, Thompson1997)

According to the statistic, study aimed at investigating the effect of weekly quizzes on Iranian high school students' performance on final achievement tests. This effect, which is technically referred to a wash back, is defined as the effect of testing on learning and teaching. Most scholars have attempted to provide guidelines in order to achieve positive wash back.(wash back?) While some suggest frequent quizzes as a means of positive wash back, others oppose the idea. (Journal, 2013)

Reviewing quizzes can give students feedbacks and assist in preparation with in-class-test. The study use two semesters to study the affection of the time line while a quiz was applied. For example, one semester was applied with quizzes taken before completion of chapters while the other applied quizzes after completion of chapters.（Advances in Physiology Education. 2015）

A statistics- study & teaching, there were 2 group involved in this study. One group engaged with pre-lecture quizzes while the other didn’t. Students who were in the pre-quizzes felt that pre-quizzes did help them felt more confident in the course. (Education 2015)

Quizzes can also give students feedbacks while better prepare students for in-class-test. The study use two semesters to study the affection of the time line while a quiz was applied. For example, one semester was applied with quizzes taken before completion of chapters while the other applied quizzes after completion of chapters. The outcome numbers show that this class with quizzes taken before chapters has better scores in average. (Advances in Physiology Education, 2015)

**Methodology**

 **Research questions / Subjects**

The questions are, “What impact do quizzes have on students' grades in Pythagorean class?” And “What percentage of the students review the lessons before taking the quizzes during the Pythagorean lecturing section?” The first question is a qualitative question while the second is a quantitative question. Our purpose of study is to identify whether quizzes enhance students’ scores or not. Most people have quizzes during their student lives, so do I. According to my personal experience, quizzes do improve the comprehension。 Because when I prepared for a quiz, I spend time to study and understand the lessons, And because what is going to be in quiz is an uncertainty, therefore I need to understand as much as possible in the cited range to ensure that I can get it right in a quiz. Moreover, considering that I am a passive person that I only study when necessary. Quiz is a helper to reduce heavy load weight of study, if there is no quizzes, a passive students usually wait until the last minute, and then start to study, by the moment, what a student does is only to pass the test instead of understanding. Under this situation, it will be meaning-less for a student to spend time in the study, because the student study for just getting scores but not absorb it as knowledge.

In contrary, quizzes divided the term into short period of time for students to study for each quiz instead of studying at the last minute for the final, which will improve comprehension with efficiency. When you study weekly, you can feel more joyful when study while better memorize the contents. The reason is because the way you are studying makes you absorb the knowledge easier, and it is a solid memorization in your brain.

However, this is my personal experience, we need a real data to study and figure how quizzes can really can do for students. Therefore we want to study this subject and see what will happen . After all, things change in different situation.

 **Data collection**

Our data collection is from interview and open-end survey. The interview is Skype based which is a qualitative question because it is relatively fast and easy to manage to questions. It also saves our time and solves the inconvenience from distance. We arrange a proper time with the teacher, who is teaching in Tao Hua middle high school for 20 years and has a lot of experience. Therefore, he is the right person to interview.

 Moreover, he has a lot of data we need to study with. He has much resource that can support us.

Also, the survey for our quantitative question, he can be straightforward and helpful, because he has the exactly sample that we need. By given the survey to current students, then we can get the first hand data.

Moreover, the quantitative research involves surveying a large group of people. The data from survey can be collected quickly.

Survey can provide reliable direction outcome, and useful topics.

 **Instrument**

1.What impact do quizzes have on students' grades in Pythagorean class?

**Interview**

1. What are Average scores of the classes the math teacher is teaching?

2. Do you think quizzes will improve students’ performance in class? Please briefly explain.

3. Do students get better grade in classes with quizzes than those without? (Compare result from answers from students)

Teacher interview proposal: Our group want to find a good way to improve student’s mathematic grades. We want to collect final grades of students’ mathematic class data for our quantitative data, and we also plan to do interview with a mathematic teacher by Skype for our qualitative data. Then we want to analyze these data and find the best way to improve students’ grades.

 2.What percentage of the students reviews the contents before taking the quizzes during the

Pythagorean lecturing section?

Survey

1. Do you review the lessons before quiz?

□ yes □ no (Go down to the second question if you answer is yes.)

 2. How long do you usually review for a quiz?

 □ Few minutes only before the quiz.

□ No more than 30 mins.

□ No more than 1 hour.

□ More than 1 hour.

3. The amount time that you spend on review for quizzes is because you feel the class is

□ easy

□ normal

□ hard

The purpose of this survey is to analyze whether quizzes help students to learn mmore from Pythagorean. There are many factors that affect students’ take away. Such as pay attention during the lectures, reviewing, previewing, practice, study, etc. And the students are best performance-students. So all mentioned factors above will be no affection to this survey. Here is to analyze that do quizzes directly or indirectly contribute students’ take away from Pythagorean lectures or not.

Each question has 20% weight, and yes stands for positive affection, no is negative.

If yes is over 50% of the analyzing that will support that quizzes do help students with performance.

 **Data analysis**

 **Qualitative**

The most important data we get here is the scores, because we want to know what is the difference between the affection of implement with quizzes and without quizzes. During the comparison, we can have the answer for our qualitative question.

 **Quantitative**

We apply individual t-test to analyze our data. We want to know that if quizzes can enhance comprehension other than just scores. Because we assume that comprehension students have depends on how much time they invested in studying. Therefore we want to know, how many people spend time to review quizzes. How long to they spend to study? Etc.

And then we can compare the time spend on studying with scores from each student and get a reliable result for out research.

 **Reference**

Education. Spring2015, Vol. 135 Issue 3, p346-350. 5p.

Advances in Physiology Education. 6/1/2015, Vol. 39 Issue 2, p63-66. 4p.

International Journal of Modern Education and Computer Science, volume 5 issue 1 (1 January 2013), pages 36-41.