

## **Article for the Daily News -Peggy Cannistraci**

### **Tutoring Is a Positive Idea for U.S. Educational Advancement**

The changing educational goals in the United States are in direct response to the technological changes taking place in our world. Educators and politicians fear that the U. S. will not be able to compete in the global economy if our children cannot maintain high academic standards in relation to other economic powers.

As a result of our low placement in the 3<sup>rd</sup> International Math and Science Study, completed in 1996, it has become apparent that we have little hope of reaching the goals set by President Clinton to be number one in math and science by the year 2000. The results seem to indicate the American education system needs changing. This comparison found that the United States was in the middle overall, and lagged substantially behind both Singapore and Japan in mathematics.

“Data from the second International Mathematics Study show that the performance of the top 5% of U.S. students is matched by the top 50% of students in Japan.”<sup>1</sup> “We have become accustomed to levels of performance that seemed satisfactory within the context of our culture but which turn out to be anything but satisfactory compared with that of students from other cultures”<sup>2</sup>

One major difference between the countries is that parents in Japan seek to provide outside instructional services to their children on a regular basis in the form of tutoring. Parents in Japan believe that education is the only means to a successful career and they sacrifice to provide all the education they can for their children.

The Japanese feel that eventual success is not assumed to depend on one’s innate capacities but on virtuous characteristics one can develop. Hence potential is regarded as egalitarian-<sup>3</sup> everyone has it. Therefore parents spend a great deal of time and energy to assure that their children are given every opportunity to develop the necessary traits for success. Americans frequently believe the myth: Learning mathematics requires special ability, which most students do not have (Schmidt, 1997). This perception is prevalent only in the United States. In other countries, students, parents, and teachers all expect

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<sup>1</sup> The Learning Gap, page 31

<sup>2</sup> The Learning Gap, page 26

<sup>3</sup> White, page 19

that most students can master mathematics if only they work hard enough. The record of accomplishment in these countries--and in some intervention programs in the United States--shows that most students can learn much more mathematics than is commonly assumed in this country. (Mathematical Sciences Education Board 1989, p. 10)

In Japan it has been estimated that 60% of public school students and 90% of private school students participated in Juku's<sup>4</sup>, or tutoring centers. The TIMSS data reported that 48.4% of 7<sup>th</sup> graders and 53.5% of 8<sup>th</sup> graders also participated in tutoring. This number is expected to be much higher for the senior high school students as they approach their college entrance exams. By comparison 8.8% of our 7<sup>th</sup> graders and 9.5% of our 8<sup>th</sup> graders were receiving tutoring, according to the TIMSS data.<sup>5</sup> The cost for these services in Japan ranges between 5,000-10,000 yen per hour (\$40-\$80 per hour, 2/98 conversions). The cost varies depending on the reputation of the particular Juku. Students typically attend between two and three hours per week. The purpose of the Juku ranges from learning techniques and information to increase the score on college entrance exams to raising a student's grade in a math class.

Surprisingly little is understood about the tutoring experience. A paper presented to the American Educational Research Association in 1986 showed that significant improvement in mathematical skills were achieved along with a significant decrease in mathematics anxiety. This study cited that the majority of literature was able to show positive growth in mathematics achievement as a result of tutoring. Tutoring needed to be a minimum of 60 minutes per week. Achievement scores for tutored pupils were found to be superior to scores of students not participating in tutoring. The tutor needs to have 1) excellent communication skills, 2) prepare for the tutoring session, 3) evaluate the tutoring session afterwards, and 4) have a plan to prepare the student for examinations (Kepler, Henry S.). Sessions should be used to augment formal lectures, provide feedback, correct weekly quizzes, and diminish the anxiety arising in the tutee. Prior studies have shown that tutoring programs have a definite positive effects on the academic performance and attitudes of those who receive tutoring. Tutoring effects have been shown to be much larger in more structured programs than in less structured

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<sup>4</sup> Yoo Yushin, page 5

<sup>5</sup> Data gathered directly from Professor William Schmidt of Michigan State University ,

programs. They are also larger for mathematics than for other subjects. The relationship between the tutor and student was very important in predicting the students rate of returning to tutoring. Students needed to feel that the tutor cares about the students success. This has been shown to be is significant in the transfer of learning.

A recent study conducted by Peggy Cannistraci of Math Support Services at California State University Northridge investigated student attitudes towards tutoring. The results show that students seeking the help to a tutor chose to use a professional tutor two thirds of the time. Students who attend tutoring were much less likely to be embarrassed by the use of a tutor than non attendees. Of the students participating in tutoring at schools that do not provide this service, 53% of the students chose to seek a tutor on their own. The students attending tutorials at the school site or at the tutorial center (Math Support) had a slightly higher percentage of students attending by choice at almost 70%. Students perceptions of tutoring definitely changed after they had participated in a program.

Student cited these reasons for attending tutoring:

- Helps the student understand the current material.
- Helps to extend their knowledge of the subject.
- Allows the student to ask questions without embarrassment.
- Helps improve their grade.
- Helps them do their homework successfully and with understanding.
- Helps them like the subject.
- Helps them prepare for tests.
- Enjoy tutoring.

The percentage of students with a positive attitude towards tutoring, after participation, was overwhelmingly. More than 80% of students rated their experience as positive. Overall students who used a structured tutorial program were positive about it's effects. 76% of students who used a school site tutorial program were satisfied with the results, while 93% of students who used the tutoring center (Math Support) were very happy with the results. Less than half of the students had positive results when the school did not have a structured a tutorial program, this included peer tutoring programs.

There is now increased pressure on students at the high school level to complete higher level courses in order to improve their chances for university admittance. Tutoring can be used, as it is in Japan to provide a supplement to the education received through public education. Tutoring is no longer only used for remediation of skills that need strengthening, it is also used to increase a students understanding of difficult material.

Individualized instruction is always the optimum teaching environment. This fact has long been recognized by parents who provide their children with individual music instruction, private coaching, or lessons of any kind.