



Global Conference on Contemporary Issues in Education, GLOBE-EDU 2014, 12-14 July 2014,
Las Vegas, USA

The Retention Rate of Students of Mathematics Education

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Abstract

Have you ever wondered why a lot of students cannot continue mathematics when taught? Have you ever wondered why students get so frustrated when doing math? As we all know, this field is very detailed to the point where if you are not careful any problem can have flaws. Could a person who lacks detail-orientation learn the discipline of mathematics? How does a person keep this area? There could be a lot of factors that play into the failure of retention in this area. Is there some mental block from learning science? Is there a learning disability in some students? Is the field of mathematics not their forte? Are students intimidated by this field? There is a statement that students use all of the time which is, and I quote, "Mathematics is another language to me," "Mathematics is scary looking", and "I do not like mathematics because I do not understand it." Could it be that some professors are *not* teaching students correctly? Would it be that students are paying for what they have not paid attention to in grade school? How does a professor get a student who is not interested in math to become interested enough at least to learn the basics? I consider this field of infinite applications and must know where it applies in various areas. It seems that the mathematics is the branch of knowledge that a lot of students do not seem to grasp like the other fields. Why is this the case? As we discuss this matter in the article, we shall see what could be the reasons behind this hindrance.

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Peer-review under responsibility of the Scientific Committee of GLOBE-EDU 2014.

Keywords: Education, Mathematics Education, Mathematics, Retention, Course Retention, Teamwork;

1. Main text

Mathematics is a part of the general education requirements in grade school because it builds up a child's critical thinking skills. Mathematics is an extremely detailed craft, so teaching it should correspond extreme detail.

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Science exists in a numerous amount of ways to get students to understand in the best possible way. I cannot stress enough how important this concept is when it comes to education especially with the increasing of STEM careers in the nation. As we all know, mathematics is the universal language for the world but it not entirely comprehensive when everyone does not understand it. I feel that everyone in the world is not science savvy, let alone mathematics savvy. Each person has their own talent in life, and it may not be mathematics. Some people have more than one forte' which includes math. The other forte' of theirs could be English, Art, Poetry, etc. According to the National Research Council (2001), the mathematics that students must learn today is not the same mathematics that we used to learn to grow up along with our parents and grandparents (p. 1) (National Research Council, 2001). A few questions come to my mind after reading this statement. My first question is what is change? How can a subject so broad be changed after so many years? What will be the difference? Mathematics is said to exist as a science or cognitive science that has an enormous relevance to mathematics education (Lesh, Hamilton & Kaput, 2007). This paper is designed to point out the possible reasons for poor retention and a possible solution to render towards the students.

1.1. Elementary Education

At an early age, children begin to show an awareness of what numbers are (National Research Council, 2005). Toddlers have the most energy when it comes to physical activities in elementary school. Toddlers and kids of age range 5 through 11 could be more prone to physical activity than learning in the classroom so they may need some educational, physical activity. For this level of education, all teachers must have the patience to deal with this kind of hyperactivity. Also, I believe that students can learn basic science from teachers who are proficient and hold a bachelor's degree in mathematics. It seems like some employers tend to hire candidates that do not have these degrees and then wonder why the success rate is so low. Employers and people must realize that candidates that do not have a degree in mathematics are limited to teaching mathematics assuming that they have mastered it. Due to the hyperactivity, they may have a short attention span because all they want to do is go outside and play. Some might even say things like "I want to go outside and play, I will see later." Is there any training at home for them to say things like that? Is there any discipline being installed while they are at home? As human beings, we have two halves to make our whole mind. There is the left side, and there is the right side. There are students who lean towards left-sided brain training, and there are students who lean towards right-sided learning judging on how they learn through specific activities. The left-sided brain learners' processes information in a logical manner by taking pieces of information, arranging them in sequential order, then drawing conclusions and forming strategies (Whipple, 2011). Then, the right-sided brain learners' are the visual learners who process information in sequences intuitively, randomly starting with the answer and going backwards (Whipple, 2011). We must all know that every student is not going to read on the same level as the next student.

1.2 Junior High (Middle School Education)

During this time, the kids should be between the ages of eleven and thirteen where they experience an upper level version of training. I consider this level of reading a continuation of elementary school or the applications of elementary school. In some cases, there are kids that have made friends from elementary and still have them coming into junior high school. In other cases, there are kids that do not have the friends they had in elementary school for various reasons. As children go from elementary (k-5) to junior high school, I believe that some kids end up changing the way they think over time, as a result, of how some teachers present lessons. Depending on what degree a teacher holds, every teacher has different teaching styles. I feel that for junior high, there must be teachers that possess a bachelor's degree in mathematics or related degree as mathematics education. The same thing applies to junior high of teachers being employed outside of their original area. As a result of this, the employees are limited to showing what they know only, assuming that they have mastered the basics. Junior high is where a lot of kids begin the stages of puberty, so a lot of things change through their bodies. Also, many children at this age are becoming friends that have negative attitudes towards each other so, as a result, this can also alter the way a kid thinks towards mathematics lets alone life in general.

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