

The Roots of Lack of Mathematics Learning among Boy and Girl Students Who Study in Third Grade of Guidance Schools in Iranshahr

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Abstract: The study method of this paper is according to Chi Square Test, and simple random sampling method is applied to take samples. By means of this method, 117 students (49 boys and 68 girls) are selected as the sample size. The data has been analyzed statistically in two descriptive and deductive levels. Some indicators such as mean, percentage ... are used in descriptive level and some other indicators such as Chi Square Test are used in deductive level manually. This is a part of general results: there is a significant relationship between variables of “lack of motivation”, “lack of emotional relationship with teacher”, “lack of appropriate teaching method of teacher” and “lack of mathematics learning”. These results are obtained by Chi Square Test.

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1. Introduction:

The discussion of teaching–learning methods has been the most fundamental problem by which, the world of instruction and teaching has been encountered nowadays. During new millennium, to proportionate teaching with modern life is one of the challenges of teaching systems around the world. In order to optimize these methods and to create a better learning, International Commission of Global Training has proposed four categories as the main elements of learning: learning to know, learning to do things, learning to exist and learning to live together. To discover this fact that children learn through various ways is very important [1].

Schools are responsible to struggle with such an illness which wearies the youth to try mathematical science. Almost all the sciences use mathematics more or less. Without mathematics, it is impossible to make a progress in various sciences. All courses especially mathematics may have a significant role to develop talents and capabilities of children and the youth [7].

Mathematics is one of the most important and most attractive courses that requires more attention. Any individual requires mathematics to solve his or her daily requirements. Just thinking, paying attention and doing things too fast are possible by mathematics. So, it seems essential to perform various studies about effective factors on learning mathematics or to consider the roots of lack of mathematics learning. The current paper considers the roots of lack of mathematics learning among girl and boy students who study in third grade of

guidance schools of Iranshahr. We hope this paper – although inferior and limited – encourages other researchers who have a great concern about training of children of this Country, and help planners to improve and correct training affairs, and assist parents and other authorities to create required circumstances to improve learning of students.

2- Description:

2-1) Learning:

Do you think what has happened if 6 years old students meet their teacher who has a lovely behavior after some days going to school and become more eager to go to school and to wake up sooner in the morning, and say their mothers: “I will be a teacher after growing up”? When a mathematics teaching student analyses a problem by his or her own insight to solve it and a student of technical courses takes required skills to work with motors and sophisticated technical machines, what a change is occurred? Each of the above examples expresses a kind of various learning methods in the school, but learning does not occur only in schools and it happens anywhere and anytime: at home, factory, on the streets, alleys, mosques etc. Learning includes all skills, tendencies, knowledge and information that human acquires along the life.

Although all psychologists and experts of education confirm that schools are not the only place for learning, but they are usually interested to consider that kind of learning which occurs in schools. Most of the teachers and people believe that learning is to take special information, knowledge or skills. Behaviorists explain learning as the process of

changes in observable and measurable behaviors. In viewpoint of Gestalt, learning is to take new insights or to change old insights [6].

Learning is also described as following: Learning is the process to make relatively stable changes in potential experience-based behavior of people.

2-2) Effective Factors on Learning:

It is not possible to consider all effective factors on the learning process. So, just to mention some examples with obvious effect on learning will suffice.

2-2-1) preparation:

Students should have enough mental, physical and emotional growth to learn suitably. Learning will be sufficient for students who have acquired all aspects of preparation. Preparation of any individual is various in different fields. An individual may be prepared mentally, but emotional preparation may not be provided, for example fear of teacher, insecurity feeling, anxiety and confusion may confuse learning process. Whatever a person is more ready for a specific behavior, will require less motivator to represent that behavior. For example, laughing off a happy person is easier than a sad person. In children, being talented is essential for learning. Whatever a person is less prepared, will leave a behavior more. Teaching and activities of teacher will have the greatest impact when students are prepared sufficiently, otherwise, like a pulled down wick that will never be flamed, such students will never learn too [5].

2-2-2) Motivation and Goal:

The desire of student to learn is one of the motivations which plays an important role in process of learning. Desire is a motivator which increases powers. To have active students in the process of learning, the subject to be learnt should be attractive for them.

Goal is another factor to create motivation. Goal gives direction and power to activities of human. Educational purposes in schools should be a reflection of desires of students and should be explained clearly.

Teacher and student should know what the purpose of educational activities is in a specific time. Distinguished goals in school coordinate activities of teacher and student, motivate them to have various activities, show the direction and the rate of progress to them, create learning and happy environment in the class, develop the level of learning and create a deep and effective learning [9].

2-2-3) Previous Experiences:

Previous experiences and learnt materials of student create their "recognition structure". Preparation of student is affected by his previous experiences to a great extent. Individuals will be able

to understand new issues and concepts when the new issue or concept is related to their recognition structure. Learning is a process in which, previous experiences establish the bases of its current situation. What people will learn in the future, should be proportional with their current experiences.

A conscious teacher at first considers previous bases and experiences of students in educational activities, assesses their capabilities to understand new problems, and then offers new concepts according to their comprehension and knowledge. For example, if a mathematics teacher ignores previous experiences of students when teaching a new concept and starts new teaching ignoring their previous knowledge and information, the teacher will not be a successful one. Teacher can correct the difference between the level of students by renovation teaching or other various activities.

2-2-4) Learning Situation and Environment:

Environment may be physical such as light, air, equipments and educational facilities. Naturally, more educational facilities provided for any person will create better learning. The environment may be emotional. The relationship between teacher and students, between students and between parents and the perception of parents and teachers in training children may be effective on the level of learning of students. Regular educational situation with mutual kindness and respect is more effective on learning than serious environment empty of any emotion. Educational facilities including forces and equipments, social, cultural and economical situations of family, perception of parents and teachers about the environment of school and thousands of other environmental factors may affect the quality and quantity of learning of students [2].

2-2-5) Teaching Method of Teacher:

A great number of teachers and educational experts believe that teaching is to provide a situation in which, learning is facilitated for students [4].

Teaching is an activity but not an ordinary one; teaching is a kind of conscious activity according to special goals which is being performed according to recognition situation of students, and makes them changed; although there are some teachers who believe in teaching as the effort of teacher in the classroom according to traditional patterns and methods.

Teacher recognizes talents, interests and capabilities of students and guides them in an appropriate way to understand and learn. Of course, such a role depends on the knowledge and belief of teacher. If a teacher is not familiar with learning theories and principles, and believes in teaching process as a way only to transfer scientific facts, and limits learning experiences only to sitting at class,

listening teacher and memorizing orally represented subjects or the context of books, certainly that teacher will not be successful to strengthen curiosity of students and to develop their talents and scientific thought. Because students are always eager to think about various issues and require an opportunity for movement and motion to obtain educational goals. Learning will not be possible without activity and effort and without interaction with environment.

Somebody who intends to learn should make enough efforts becoming with his or her interests and capabilities. If these points are not regarded in teaching method of teacher, school and classroom will not be attractive for students, but if teacher is a leader for students and creates desired situation of learning and teaches them how to take experiences instead of only transferring information to them, students will be more active when confronting problems, will use various resources, will obtain required information and will analyze this information to solve the problems [8].

2-2-6) The Relation between the Whole and the Portion:

In teaching process, teacher should offer lessons wholly as much as possible and define the relationship between portions and the whole. Then, portions should be considered and analyzed. The study from the whole to the portions explains the relationship between portions and the whole and increases the ability of analysis in learners. Consequently, the study creates the possibility of significant and meaningful learning. In other words, memorization and repetition will be replaced with comprehension and thinking.

2-2-7) Practice and Repetition:

Anybody has heard this old proverb: "Practice makes perfect", and knows that rope-walking or car driving will be possible only after a great amount of effective practice and repetition. Effective practice and repetition has specific conditions and qualifications such as a regular and steady trend and proportional period lengths, and should be performed in natural and real conditions. If students practice in unnatural and artificial situations, they not only lose their self-condition, but also their motivation may be reduced, so if they know about the progress, they will make more efforts. Practice should not be too long and boring. If an action is being repeated continually and rapidly, people will be weakened to do it gradually and at last, will refuse to do it. In fact, tiredness will affect the responses and will reduce learning [8].

2-3) Statistical Sample Size:

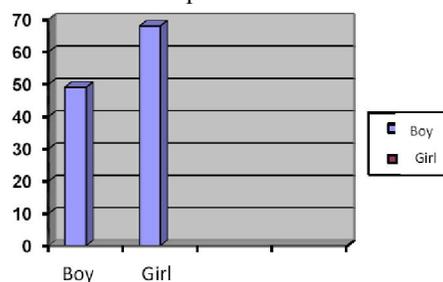
Due to our problem to access all boy and girl students, we selected one school for boys and one school for girls randomly. Two classes in girls'

school and two classes in boys' school were selected including 68 girl students and 49 boy students randomly.

Table 1: Gender frequency distribution of respondents

Gender	Frequency	Percent
Boy	49	41.88
Girl	68	58.12
Total	117	100

Chart 1: Gender of respondents



2-4) Sampling:

Two classes in both schools – "Parvin 1" School for girls and "Ibn-Sina" School for boys – were selected randomly to complete our questionnaire.

2-5) Data Collection Tool:

The questionnaire is the tool to collect data. The questions of this questionnaire are arranged according to Lickert spectrum and consider 8 effective factors on learning of students including: emotional relationship of teacher, motivation, teaching method, structure of classroom, adornment of teacher, encouragement and discouragement of family and student talent.

A question was designed for any of these factors. This questionnaire includes 11 closed questions and required improvements were made to define fluency of questionnaire.

3- Discussions:

Following results are achieved after consideration of questionnaires:

- Intimate relationship is higher in girls than boys. Averages are 4.91 for girls and 2.81 for boys.
- Effort to solve problems of other students is higher in girls than boys. Averages are 4.38 for girls and 3.77 for boys.
- Effort to teach lessons to other students is higher in girls than boys. Averages are 4.33 for girls and 4.10 for boys.
- Involvement of students in teaching process is higher in girls than boys. Averages are 3.94 for girls and 3.83 for boys.

- Attention to personal differences in learning process is higher in girls than boys. Averages are 3.92 for girls and 3.77 for boys.
 - Creation of argument is higher in girls than boys. Averages are 3.44 for girls and 1.65 for boys.
 - Observation of cleanliness during teaching process is higher in girls than boys. Averages are 3.23 for girls and 3.16 for boys.
 - Competition among students is higher in girls than boys. Averages are 3.80 for girls and 2.22 for boys.
 - Encouragement and discouragement according to function of students is higher in girls than boys. Averages are 3.80 for girls and 4.24 for boys.
 - Continuous effort of family to teach mathematics to students is higher in boys than girls. Averages are 3.77 for girls and 4.26 for boys.
 - Understanding of mathematics is higher in boys than girls. Averages are 3.21 for girls and 3.47 for boys.
 - There is a significant relationship between learning of boy and girls students in mathematics with variable of motivation (the relationship is in significance level: $\alpha=0.05$ and $\chi^2=1.53$).
 - There is a significant relationship between learning of boy and girls students in mathematics with variable of emotional relationship with teacher (the relationship is in significance level: $\alpha=0.05$ and $\chi^2=1.78$).
 - There is a significant relationship between learning of boy and girls students in mathematics with variable of teaching method (the relationship is in significance level: $\alpha=0.05$ and $\chi^2=2.35$).
- So:
- Divorce of parents or the death of one of them is effective on non-learning mathematics.
 - Discouraging emotional relationships and low security in family environment due to problems of parents are effective on non-learning mathematics.
 - Social situation of villages and bad economic position of families and low level of education and culture in families in deprived regions are effective on non-learning mathematics.
 - Lack of learning and teaching goals by teachers and lack of familiarity with active and grouping methods (unfortunately some teachers still use traditional methods) are effective on non-learning mathematics.
 - High volume of educational materials regarding low hours to teach lessons especially in third grade of guidance schools are effective on non-learning mathematics.
 - Preparation of homework of student by some parents and scoring system in some schools are effective on non-learning mathematics.
 - Inappropriate educational situations and lack of suitable educational facilities in villages are effective on non-learning mathematics.
 - Low motivation is effective on non-learning mathematics.
 - High number of family members in villages is effective on non-learning mathematics.
 - Occupation of children to agriculture and animal husbandry is effective on non-learning mathematics.
 - Addiction of parents to drugs is effective on non-learning mathematics.
 - Unsuitable environment in classes and low facilities of schools are effective on non-learning mathematics.
 - Crowded classes are effective on non-learning mathematics.
 - Repeatedly changing teachers during academic year or along continuous years is effective on non-learning mathematics.
 - Lack of familiarity with concepts of mathematics in daily life is effective on non-learning mathematics.
 - Lack of positive relationship between students and attention and encouragement of teacher are effective on non-learning mathematics.
 - No familiarity with suitable methods to study mathematics is effective on non-learning mathematics.
 - Weak consideration of the function of students by authorities of schools is effective on non-learning mathematics.

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In the name of God
Questionnaire

Dear students:

Your learning level of mathematics is being considered in this questionnaire. Please mark a "×" as your answer to any question impartially and fairly. It is not necessary to write your name and your answers will be confidential.

Gender: girl (), boy ()

How much your mathematics teacher:	Too high	High	Average	Low	Too low
1- has an intimate relation with students?					
2- tries to solve problems of students?					
3- tries to teach lessons?					
To what extent, there are followings in your class?					
4- Involvement of student in teaching process					
5- Attention to personal differences in learning					
6- Establishment of argument among students					
What attracts your attention about appearance of teachers and is effective in learning mathematics?					
7- Cleanliness during teaching					
8- Competition among students					
How much there are followings from viewpoint of encouragement and discouragement?					
9- How much are encouragement and discouragement according to the function of students?					
How much are following behaviors in the family effective on your learning?					
10- Their continuous effort to teach mathematics					
11- How much does your understanding of mathematics affect your learning?					

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