
THE ROLE OF STUDENT ATTENTIVENESS IN THE CLASSROOM OF PROBABILITY THEORY AND MATHEMATICAL STATISTICS IN HIGHER EDUCATION

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ABSTRACT

The article examines the significance of the role of attentiveness of students in the study of the discipline of probability theory and mathematical statistics. One of the reasons for the failure of students in the discipline is indicated. And also the tasks are considered taking into account the peculiarity of the theory of probability and mathematical statistics, its abstractness, requiring logical thinking. It also describes the experience of conducting practical exercises, including individual tasks in the classroom, the advantages of such individual tasks.

KEYWORDS: *Attentiveness, Reasons for Academic Failure, Quality of Teaching, Classes in Probability Theory and Mathematical Statistics, Individual Assignments.*

INTRODUCTION

Each teacher knows how important the attention of students is for the successful course of classes and the entire process of teaching the discipline of probability theory and mathematical statistics in general.

The teacher can observe in his classroom individual students, although they are sitting at the table, but in fact "have left the classroom" in the field of their own reflections, memories or dreams. Many years of experience show that inattention is one of the reasons for students' academic failure. This does not mean that inattention can justify low academic performance or, conversely, only the student's attentiveness itself can be a main reason of academic performance. [1]

The most important characteristics of attention are its selectivity and volume. So at an event, a person at first hears only the general noise of voices. However, as soon as his friend suddenly speaks nearby, the attention of one and the second person will switch to their voices and communication. This phenomenon, known as the "cocktail party effect", was experimentally confirmed in 1953 by Edward Colin Cherry of Imperial College, University of London. [2]

The amount of attention can be expressed in the number of objects on which a person is able to concentrate at a certain moment. For an adult, this is about four to five, maximum six unrelated objects: for example, letters or numbers. This does not mean that we simultaneously perceive only a few words in the text - these can also be semantic fragments of the material. But their number is no more than six. [3]

And finally, attention is characterized by its ability to move from one task to another (distraction

from this point of view is an insufficient ability to do this effectively) and stability - the ability to maintain concentration for some time. This property depends on the characteristics of the studied material and the person himself. Focusing your attention is one of the conditions for successful work and study. Charles Darwin wrote in his autobiography "Memories of the Development of My Mind and Character" that not only the habit of energetic work, but also attention to any business that I was busy with, helped in my work. And the Anglo-American psychologist Edward Bradford Titchener in his book Lectures on the Experimental Psychology of Sensation and Attention (1908) called him "the nerve of every psychological system."The ability to concentrate has a positive effect on academic performance. This is evidenced by the MIT research, which was conducted in Boston. They talk about attention as "a form of mental activity that needs to be maintained."

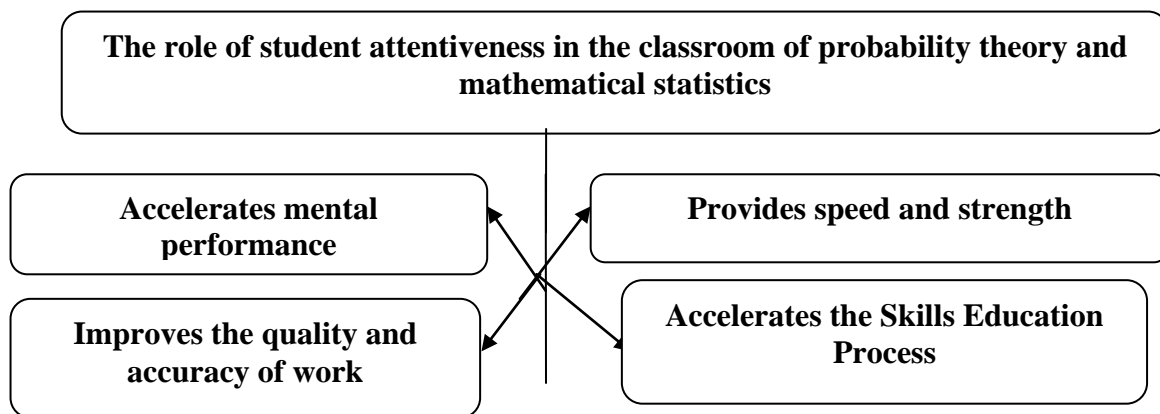
MAIN PART

In our opinion, the first factor that ensures academic performance is the quality of the teacher's work, the quality of preparation and education, including the education of attention.

We pose the question "What is attention?" The answer to this question is given by psychology: "Attention is the direction and concentration of a person's mental activity on something specific."

From this point of view, we compare excellent students from other students. Excellent students are attentive to everything. Conducted a survey among excellent students in discipline. It turned out that excellent students spend no more time than other students, but they are attentive to everything, including they are attentive

- a) To the teacher's explanation;
- b) To his questions;
- c) To the answers of students;
- e) To mistakes and achievements of comrades;
- f) Reading books;
- g) To the preparation of home and independent work.



Such attention to everything becomes a habit of excellent students who do not require much effort. Due to the specifics of the subject, the theory of probability and mathematical statistics plays a special role in the attention of students. A feature of the theory of probability and mathematical statistics in its abstractness, requiring logical thinking. Each task on the subject requires an extremely complete, complete argumentation. For each task you need to find your own approach, a formula suitable for this task. And also students should consider all sorts of different cases. It requires students to understand the logical scheme, the ability to list all kinds of events and favorable events, calculate the chances of their possibilities and the chances that are offered to

him. Sharp clarity and dismemberment of reasoning and classification of the studied, cases and subcases are required.

Long-term experience shows that the beginning of classes is of exceptional importance, giving tone to its entire further course. The fit, self-discipline of the teacher and students at the beginning of classes contributes to the manifestation and development of attention. Excessive agitation or, conversely, relaxation, lethargy inhibit attention. The teacher's style of behavior: calmness, restraint, demeanor, own organization and attention to everything play a huge organizing role in the entire course of classes. The teacher must see everyone in the classroom and keep everyone in his area of attention: if this is a lecture lesson, then from time to time it is necessary to create problem situations, if this is a practical lesson for each student, if possible, individual assignments, or the teacher asks one student at the table for theory, another for boards solve the problem, the rest solve their individual problems - you need to see all this, react in a timely manner and react skillfully, without disrupting the course of the lesson. Too much comment on one distracts from the work of others and can sometimes do more harm than good. Instead, it may be enough to look expressively, walk up, touch the shoulder, or silently pick up a foreign object that the student is busy with.

Stimulating student activity is essential. The teacher must make every effort to ensure that students at all stages of the practical lesson are as active and attentive as possible to everything that is done in the classroom. For this purpose, I assign tasks individually to each student. For example, such a task: In the warehouse of packed goods, including defective goods. Items are selected at random. Draw up the distribution law of a random variable, the number of non-standard goods among the selected ones. Here is your serial number in the magazine.

This task is individual for each student. Nobody can cheat. And the solution to the problem is different, depending on the number in the journal, respectively.

Or Tests:

Test 1. There are $10+n$ identical balls in the urn, $5+n$ of them are white, the rest are black. Find the probability that, out of two randomly chosen balls, both balls will be white.

Test 2. If in a box of $25+n$ component parts. $5+n$ component parts are of them poor quality, then find the probability that when three parts are selected sequentially (without returning), all three parts will be of good quality.

Test 3. There are $10 + 3n$ pencils in the box, $6+n$ pencils are red and the rest are black. Find the probability that when two pencils are selected successively, both pencils will turn out to be red.

Test 4. There are $5+n$ identical numbered balls in the urn. Sequentially take out $3+n$ balls (scheme without return). What is the number of elements?

Test 5. Calculate the mathematical expectation of the sum of the dropped out points when the cube is thrown $6n$ times.

Here the pace of the students and the class must be taken into account. Those, the pace of the lesson should be fast enough, intense, uninterrupted, calculated in minutes. A teacher who teaches the lesson at the proper pace is more likely to have a successful result.

An experiment was carried out to study the peculiarities of students' attention in probability theory and mathematical statistics. The research was carried out at the Fergana State University by students of the 2nd year of the mathematical direction. The number of students is 70 people. Students took an active part in the experiment. To study the level of attentiveness of students, the following methods were used: determination of productivity and stability of attention

(modification of the Pieron Rouser method), Bourdon's proofreading test, the "Schulte Tables" method for determining the amount of attention. These methods were calculated for each subject separately, translated into points corresponding to a certain level given in each method. Based on the results of the diagnostics, the following results were obtained. The method for determining the concentration and stability of attention (a modification of the Pieron Rouser method) is designed to measure two properties of attention at once: concentration and stability. The experiment was carried out in solving problems on the subject.

Analysis of the results: The number of errors and the time spent on the task is recorded.

Assessment: 1. High concentration and level of attention span of 10% in 30 minutes without errors.

2. The average level of concentration and stability of attention is 42% in 35 minutes with 3 errors.

3. Low level of concentration and stability of attention 40% in 35 minutes with 4 errors.

4. A very low level of concentration and stability of attention 8% in 37 minutes with 6 errors.

The levels of concentration and stability of attention according to the method of PieronRoser The method "Schulte Tables" is used to study the speed of orientation-search movements of the gaze, the amount of attention when solving tests.

Levels of speed and attention span of students assessed according to the Schulte table. More than half of the respondents show normative indicators of attention according to the characteristics of speed and volume. We used Bourdon's "Correction test" method to study the features of active attention, its switch ability, and especially exhaustion. Its conduct allows you to determine fluctuations in attention, the presence of fatigue during classes.

Registered: time to complete the entire task, the number of errors and the pace of the task. Distribution of errors throughout the experiment, whether they occur in the entire table, or at the end of the study in connection with exhaustion. The nature of the errors.

As a result, 24% of students have normal attention span and volume and 76% are below normal. The level of attention of the subjects according to the method of "Correction test" In general, the level of attention is higher than normal. Analysis of the results shows that it is mainly necessary to use special methods and techniques of teaching, with the help of which it is possible to increase concentration of attention. Analysis of the literature shows that attention is such a universal psychological property, without which no type of human activity is possible. Most scientists emphasize that a high level of development of the qualities of attention ensures the success of all cognitive processes.

CONCLUSION

Thus, step by step, we, teachers of mathematics, can and should educate students' attention, making it more and more arbitrary, more and more active and stable, developing the habit of students to be attentive. And the habit of being attentive turns into attentiveness as a personality trait. Hence such moral qualities as sensitivity, responsiveness, etc. Hence - the influence of attention on the moral qualities of a person. This character trait is absolutely necessary for students who are on the verge of civil adulthood and are preparing to become good specialists in the future.

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