STOCHASTIC PROBLEMS AND APPLIED ORIENTATION IN MATHEMATICS TEACHING

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The article deals with some aspects of the study of the discipline "Probability theory and mathematical statistics" by the students of economic specialties through the solution of practical exercises. The main aim of learning the course is to form the skills to apply the knowledge gained to the tasks in economics. The concept of teaching probability theory and mathematical statistics is a process in which stochastic concepts and ideas serve as a mathematical apparatus for solving specific problems. Nowadays it is traditional to acquaint students with certain sections of applied mathematics, including probability theory and mathematical statistics, as purely abstract theories. However, as the best we consider another approach, according to which "a more adequate solution will be to acquaint the students with the methods of mathematical models construction". In solving the problems of an applied nature, students get an idea of the necessity and universality of mathematics and its methods.

The value of stochastic problems is determined predominantly not by the apparatus used in the process of their solution, but by the ability to demonstrate the process of usage of mathematics in solution of non-mathematical problems. It is shown how, with the help of applied tasks, to familiarize students with real examples of application of stochastic ideas and methods, as well as to make it possible to organize specific activities necessary in the process of application of mathematics. The student, researching a mathematical problem, formulates different questions and problems, then "transforms" them into the notions of mathematics, in order to solve them by mathematical methods, and then adapt the solution to the real problem, which was set at the beginning of the learning activity. This process is a process of constructing a mathematical (probabilistic) model of a real situation, which can be considered a mathematical activity in a broad sense.

Among the traditional stochastic problems there are many typically mathematical (intramodel) tasks of such a kind, which were formulated by means of non-mathematical terms.

It is necessary to note that the real problems of an applied nature are rare in mathematics because the stage of formalization (construction of a mathematical model of a non-mathematical situation) requires to have a deep knowledge and mathematical culture. This fact generated the problem of selection of tasks of applied nature that can be used in teaching.

The paper presents a number of examples where students are shown how, with the help of some modification, a number of traditional problems of probability theory (formulated in the language of non-mathematical terms) can be developed into the tasks of applied nature. Expanding the range of such tasks during the study of mathematics would have a positive effect on students' attitudes to this discipline and would increase their motivation to learn. Besides, the role of stochastic issues in mathematics and general education would become more multifaceted.

For the university teachers of mathematics working with the students of economic specialties the most important thing is the formation of students' mathematical skills to use the mathematical apparatus in their future professional activities.

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