On the misconceptions of 10th grade students about analytical geometry

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Mathematics is the most important tool of science and technology and a part of everyday life. Mathematics education is an important factor in the rational approach of individuals to analytical thinking and problem solving problems. Misconceptions is one of the factors that complicate the mathematics education. The aim of this research is to determine the relationship between misconceptions and analytical concepts.

In the first stage, an open-ended exam was applied to 2552 tenth-grade students studying at 19 high schools under Istanbul Provincial Directorate of National Education and 299 students from two high schools were tested in the second stage. In the last stage 10 students were interviewed. Errors and misconceptions of the students in the questions covering the analytic geometry were examined.

At the end, it was concluded that knowledge levels, errors and misconceptions of students in the analytic geometry should be identified to use proper instructional strategies. It is necessary to design different activities to improve the levels of students who cannot comprehend the analytic geometry on the level of their classrooms. This will ensure that the whole classroom achieves the same comprehension level. A decrease in errors and misconceptions will be observed and misconceptions will be identified more easily. Eliminating the misconceptions is possible by getting beyond the traditional instructional methods and keeping the teacher from the role of information transferer and the student from the role of passive listener.

Rereferences

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