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**How to teach quadratic curves through a historical overview.**

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Summary: Nowadays in school mathematics, the skill and method for solving problems are often emphasized in preference to the theoretical principles of mathematics. Students pay attention to how to make an equation mechanically before even understanding the meaning of the given problem. Furthermore, they do not really get to know about the principle or theorem that were used to solve the problem, or the meaning of the answer that they have obtained. In contemporary textbooks, the conic sections such as circle, ellipse, parabola and hyperbola are introduced as the cross section of a cone. But they do not mention how conic section are connected with quadratic equations or how these curves are mutually related. Students learn quadratic equations of conic sections introduced geometrically and are used to manipulating them algebraically through finding a focal point, vertex, and directrix of a cross section of a cone. But they are not familiar with relating these equations with the cross section of a cone. In this paper, we try to better understand the quadratic curves through the analysis of the discussion made in the process of the discovery and eventual development of the conic section and then seek for way to improve the teaching and learning methods of quadratic curves.

*Classification:* G70 G40 A30 H30

*Keywords:* conic sections; quadratic equations; concept formation; teaching; genetic method; history of mathematics; quadratic functions; quadratic curves; geometry; locus; Dandelin spheres; parabolas; hyperbolas; ellipses; circles