The rapid development and diffusion of technology dramatically change the power balances/relations and competition areas among the countries. In order to keep up with such a transformation and to become an arbiter or an entitled shareholder, countries strive to get benefit from the latest technology in their all institutions. Intensive effort and studies are being conducted especially on the information and technology oriented economy and growth. One of the fundamental requirements for success in this issue is to train entrepreneur citizens that are aware of the potentials of technology and able to use technology for production through integrating technology in educational contexts. Computer-assisted instruction (CAI) is one of the applications to help in the way of fulfilling this goal. Defined as making use and taking the advantage of computer technologies in teaching-learning activities, CAI aims to provide students with effective and enriched educational experiences that can ideally serve their needs and interests. Computers are also used in mathematics education where analytic processes such as calculation, visualization, prediction and intuition, modeling and generalization are required. The potentials of CAI in mathematics education have been explored in research studies. Examination of these studies is important in order to follow rapidly changing computer applications and related research trends in this area. Therefore, using a content analysis, this study aims to provide an overall evaluation of Turkish graduate thesis focusing on the use of CAI in mathematics education completed between 2005 and 2016. A total of 83 theses were recruited through relevant searches on the online database of Higher Education Council. They were carefully read and the necessary information was transferred to the Microsoft Excel environment using the 4N1K literature review method. Then, the information about each study was coded in terms of research problem, CAI application employed, main variables, research methods, sampling, data collection and analysis methods and results and then converted into frequency and percentage tables.