The purpose of this study was to investigate the attitudes’ influence towards learning and performance in mathematics by students in secondary schools in Bureti District. The objectives of the study were: a) to determine the attitudes formed by the students towards learning and performance in mathematics, b) to find out whether such attitudes contributed to inappropriate learning of mathematics and consequently poor performance in secondary schools and c) to establish factors which influence attitudes towards learning and performance of mathematics among secondary school students. The study adopted a descriptive survey design and data was largely descriptive by nature. Data was collected using Mathematics Teachers Questionnaires (MTQ for teachers and Mathematics Students Questionnaires (MSQ for students. These were administered on a sample of 24 teachers and 359 students respectively selected from six secondary schools in Bureti district. Data collected were coded and subjected to a Statistical Package for Social Science (SPSS) analysis. Findings indicated that the major problem associated with attitudes in the learning of mathematics in the secondary schools included lack of confidence and interest in the ability to learn and perform well in mathematics as reported by 45% of the respondents. Lack of interest in mathematics was mentioned by 24% of the respondents. With regards to attitudes towards mathematics as a subject, 56% of the respondents strongly agreed that they enjoyed learning mathematics as a subject. In addition, the same percentage (56%) strongly disagreed that Mathematics classes/lessons were not interesting. Out of the students respondents 49% of them strongly agreed that they would like to continue doing mathematics after secondary school. Only 38% of the respondents strongly disagreed that understanding mathematics was difficult while 70% of the respondents strongly agreed that Mathematics was a very useful subject in life. The following recommendations are made from the study: a) positive attitudes towards learning and performing well in mathematics are necessary ingredients in secondary school mathematics education. There is need for teachers, parents, and any other education stake holder to enhance these positive attitudes, b) there is a successive connection between attitudes, learning, performance and practical utility of mathematics. This connection should be established early enough in students' mathematics education cumculum; c) mathematics teachers particularly should know precisely how students learn mathematics. This will help them organize and plan for effective teaching and learning of any mathematical concept. d) Language used while students learn mathematics should be purposively geared towards enhancing favourable attitudes towards mathematics education, e) mathematics departmental counseling should be undertaken regularly to assist students with persistent negative attitudes towards learning and performance in mathematics. The unfavourable attitudes should be curtailed professionally and early enough before students utterly drop learning and/or performance in mathematics, f) mathematics teachers should wisely utilize available learning resources to enhance positive attitudes, reinforce neutral attitudes, if any, and neutralize any negative attitudes towards learning and performance of mathematics, g) efforts should be made to ensure gender does not hinder learning and/or performance in mathematics among students. Teachers, parents and siblings of the students should encourage both the female and male learners to equally embrace mathematics.