The purpose of this study was to investigate answers to the following questions: (1) Is there any relationship between inservice student teachers' background factors (age, sex, teaching experience, mathematics teaching experience, marital status, parental education, type of secondary school attended, status of the secondary school attended, time lapse between school and college mathematics, number of children in the family and the college attended) and the mathematics grade achieved in primary teachers' examination? (2) Is there any relationship between inservice student teachers' attitude towards mathematics and mathematics grade achieved in primary teachers' examination? (3) Is there any relationship between inservice student teachers' educational aspiration and the mathematics grade achieved in primary teachers' examination? (4) Is there any relationship between mathematics grade by inservice student teachers in certificate of primary education of Education (CPE) examination and primary teachers' examination? (5) Is there any relationship between mathematics grade achieved by inservice student teachers in the Kenya Certificate of Education (KCE) examination and in primary teachers' examination? The study also sought to identify the strengths and weaknesses of mathematics course for inservice teacher programme.

The four instruments were used in data collection were the inservice Student Teacher Demographic Questionnaire (ISTDQ), Inservice Student Teachers Education Programme Scale (ISTEPS), Revised Mathematics Attitude Scale (RMAS) and Primary Teachers' Mathematics Examinations (Inservice 1987). Complete questionnaires were received from 457 P1 inservice student teachers from eight primary teacher training colleges and inservice residential centres. The two mathematics papers for primary teachers' examination (Inservice 1987) were administered to all P1 inservice student teachers enrolled in the inservice teacher programme. The researcher was only interested in the mathematics grade achieved in primary teacher examination after the examination was administered by Kenya National Examination Council. The sample population for this study was selected using simple random sampling and systematic random sampling technique.

The chi-square test was used to test if there were significant relationships between inservice student teachers' (a) background factors (variables) and the mathematics grades achieved in primary teachers' examination (b) mathematics grades achieved in primary teachers' examination and Kenya Certificate of Education (KCE) examination (c) mathematics grades achieved in primary teachers' examination and Certificate of primary Education (CPE) (d) educational aspirations and mathematics grades achieved in primary teachers' examination. Point biserial correlation coefficient was used to test if there was a significant relationship between attitude toward mathematics and mathematics grades achieved in primary teachers' examination. The 0.05 level of confidence was used to accept or reject the null hypothesis.

Analysis of data collected from inservice student teachers revealed that P1 inservice student teachers joined inservice teacher programme when they were at least twenty years. Majorities were between 30 to 40 years of age. Most of the inservice student teachers were married with an average of three children. There were more male inservice student teachers admitted into the P1 inservice teacher programme than women among the 1985 - 88 cohort.

Most of the parents of the inservice student teachers had either no formal education or had primary school education only. The study further revealed that most of the inservice student
teachers joined inservice teacher programme with a weak mathematics background from secondary schools. Over one third (40.7%) of all the student teachers who participated in this study had failed in mathematics at Kenya Certificate of Education. Of those who had passed 59.0 per cent managed only marginal passes (pass 7 or 80 in mathematics at Kenya Certificate of Education.

The attitude toward mathematics among inservice student teachers was generally positive. About 85.6 per cent of inservice student teachers had high attitude scores of 60 and above. The mean attitude scores for all the inservice student teachers who participated in the study was 77.4 out of an expected maximum of 100. Analysis of the attitude scores however showed that male inservice student teacher had a more positive attitude toward mathematics compared to female inservice student teachers. The inservice student teachers generally had high educational aspirations.

There were significant relationship (at 0.05 level of confidence) between inservice student teachers' mathematics grade achieved in primary teachers' examination and their sex, type of secondary school attended, college attended, KCE mathematics grade, CPE mathematics grade, mathematics teaching experience, and number of children in the family. Each of these factors was statistically related to inservice student teachers' mathematics grade achieved in primary teachers' examination. There was also a significant relationship between inservice student teachers' attitudes towards mathematics and mathematics grade achieved at primary teachers' examination.

No significant relationship was found (at 0.05 level of confidence) between inservice student teachers' mathematics grade achieved in primary teachers' examination and age, marital status, teaching experience, secondary school status, time lapse between school and college mathematics, parental education and educational aspirations. Although there were small relationships between each of these factors and the mathematics grade achieved in primary teachers' examination, statistically these relationships were not significant.

When inservice student teachers were asked to indicate what they considered as the major satisfactory aspects of mathematics course for inservice teacher programme, majority indicated that:

1. Mathematics study guides were very well written in a clear and simple language.
2. Radio lessons gave inservice student teachers an encouragement to continue working hard.
3. Mathematics study guides (units) were very well illustrated and the print was clear.
4. They were able to understand difficult concepts taught in residential sessions and through the radio much better after receiving the mathematics study guides (units).
5. The teaching of the mathematics course for inservice student teachers was very well organized and each component (residential, correspondence, and radio lessons) reinforced each other.

The inservice student teachers also identified the following as the main weaknesses of mathematics course for inservice teacher programme:
1. Lack of physical contact between inservice student teachers and the college tutors was a major problem for the learners. When inservice student teachers experienced difficulties while learning mathematics, they were unable to proceed further with the topic that was being learned.

2. The content covered in mathematics course for inservice student teachers was very wide while the time available was very short.

3. It took the Department of Distance Studies too long to sort out difficulties encountered by inservice student teachers while learning mathematics.

4. Mathematics study materials were usually delayed, delivered late or lost after despatch from the Department of Distance Studies.

On the basis of the findings of this study, the following recommendations were made:

1. The government should introduce a policy of using grades achieved in mathematics at Kenya Certificate of Education (KCE) as one of the criterion for recruiting untrained teachers into the inservice teacher programme.

2. Attitudes toward mathematics was a factor in achievement in mathematics at primary teachers’ examination. During residential sessions of inservice teacher programme emphasis should be placed on developing positive attitudes towards mathematics.

3. The period for studying mathematics course for inservice teacher programme should be extended from the current two years to three years.

Further research is needed to investigate whether factors identified as being related to mathematics achievement among P1 inservice student teachers are also applicable to P2 and P3 inservice student teachers. A further research study is also needed to compare whether factors that influence achievement in mathematics among inservice student teachers includes personality traits, motivational factors and intellectual aptitude, which were not investigated in this study.