Critical thinking determines human activity in life and is enhanced by spatial mental processes, which also determine pupils' learning and performance in Mathematics. Any factor that interferes with the development of spatial ability would affect critical decision making while learning mathematics and solving social problems.

This study assessed factors, which affect pupils' development of spatial ability in secondary schools in Kenya. Thus, the study undertook to assess pupils;

(a) Constructivist paradigm, which emphasizes perception of ideas from a learning environment.
(b) Problems solving skills, whose application requires, abstract thinking.
(c) Attitude towards learning of mathematics.
(d) Ability to visualize and understand spatial concepts in mathematics.

The study was done in Nairobi and Eastern provinces in the Republic of Kenya where 483 pupils and 25 teachers were randomly selected from 24 secondary schools. The objectives of the study were to:

(a) Determine how the pupil and non-pupil characteristics are correlated with the ability to solve mathematics problems that require the mastery of spatial concepts.
(b) Suggest policy recommendations based on the study findings.

Although a number of authors have addressed some issues relating to spatial concepts, individuals’ spatial ability potential has not been critically considered. This study did that.

The pupils' spatial ability test (PSAT) mathematics teachers questionnaire (MTQ), classroom observation schedule (COS) and official documents from the ministry of education were used in collecting the data. Validity and reliability of the instruments were enhanced by a pilot study and by adopting tested items in the PSAT. The extent to which some factors affect the development of spatial ability was determined through multiple regressions.

The main findings are that:

(a) There is lack of effective communication between the teacher and the pupils in a mathematics class.
(b) Some secondary schools in Kenya do not provide conducive learning environment for pupils’ development of spatial ability. This situation affects girls more than boys. (c) Most pupils find drawing nets and reflection images to be difficult.

The above findings show that there is need to improve learning environment in Kenya's secondary schools. Unless sensitizing agents of curriculum implementation do this, secondary school pupils will continue to have their spatial ability inadequately developed.

The implication of these findings is that individuals who learn in unconducive environment for the development of spatial ability are likely to develop less ability to interpret, solve social problems and communicate their ideas effectively. In view of this, it is home and school environments.
This thesis has five chapters. Chapter one introduces the statement of the problem while chapter two reviews the relevant literature to the study. Chapter three deals with methodology for data collection whereas chapter four presents data analysis. Summary of the results, conclusion and recommendations are presented in chapter five.