EFFECT OF ECOLOGICAL APPROACH TO MATHEMATICS ON ENVIRONMENTAL
ETHICS AND ACHIEVEMENT IN MATHEMATICS IN RELATION TO
PARENTAL INVOLVEMENT

A SUMMARY OF THE THESIS

Submitted to the
FACULTY OF EDUCATION
PANJAB UNIVERSITY CHANDIGARH
for the degree of

DOCTOR OF PHILOSOPHY

2016

JYOTI SONI

DEPARTMENT OF EDUCATION
PANJAB UNIVERSITY
CHANDIGARH
SUMMARY

Mathematics is one of the core academic subjects throughout the world. It should be taught through exploring environment. Ecological approach is highly effective way of teaching students in this context. It includes a rich variety of interactive practices where by participants have opportunities to learn from experiences.

This study investigated the effect of ecological approach to mathematics on environmental ethics and achievement in mathematics in relation to parental involvement. It adopted experimental design, included experimental group (N=40) and control group (N=42) and used pre-test and post-test measures.

Instructional material for implementing ecological approach, mathematics achievement test, parental involvement scale and environmental ethics scales were developed and validated by investigator for collection of data. The experimental group was exposed to ecological approach and control group to conventional method of teaching for 33 sessions of 40 minutes duration. Both groups were taught similar topics, but taught with different instructional methods.

The analysis of data revealed that use of ecological approach with parental support, there will be an ideal situation for VI graders to enjoy higher strides of achievement and helpful in enhancing the interest of the students in mathematics.

It was also indicated that the two instructional approaches as well as the students with low and high parental involvement exhibit similar environmental ethics among students. The reason may be that it required longer duration of ecological approach in schools. Also, the prevalent teaching and learning mindset of students and their parents is, subject and classroom oriented focusing only on academic achievement scores.