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EFFECTIVENESS OF MANIPULATIVE MATERIALS IN TEACHING ALGEBRA

**EFFECTIVENESS OF MANIPULATIVE MATERIALS IN
TEACHING ALGEBRA**

**A
THESIS
BY
SHAKTI RAM OLI**

**FOR THE PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF EDUCATION**

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LETTER OF CERTIFICATE

This is to certify that Shakti Ram Oli, with campus Roll No.: 678/066, T.U. Exam Roll No. 281623/068, Thesis Number 1096 and T.U. Registration No. 6-1-54-550-2002 has completed this thesis under my supervision for the period prescribed by the rules and regulations of Tribhuvan University. The thesis entitled "**Effectiveness of Manipulative Materials in Teaching Algebra**" embodies the result of his investigation conducted during the period of 2073 BS. This thesis is submitted and forwarded for evaluation and recommend to award the degree of Master of Education.

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Date:

LETTER OF APPROVAL

A

Thesis by
Shakti Ram Oli

Entitled

EFFECTIVENESS OF MANIPULATIVE MATERIALS IN TEACHING ALGEBRA

has been approved in partial fulfillment of the requirements for the Degree of
Master of Education.

Committee for Viva - Voce

Signature

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ABSTRACT

This is an experimental research related to find the effectiveness of manipulative materials in teaching algebra. The objective of the study were to identify the achievement of students in algebra taught by using manipulative materials and to compare the achievement of students in algebra taught by using manipulative materials and without using it.

The design of the experiment is pre-test post-test non - equivalent control group design. In order to fulfill the objectives, the researcher selected two schools by convenient in Rukum district from each school, 20 students from grade VIII were selected for sample of the study. To establish the reliability of the test, pilot study was administered to 22 students of Janajagriti Secondary School. To finalize the suitable questions of the test, the researcher used achievement score to carry out the item analysis. For item analysis, 27% of upper and 27% of lower cases group identified. The experimental and control group were determined by tossing a coin. Both experimental and control group were taught by researcher on the topic algebraic expression at grade VIII. The experimental group was taught by using manipulative materials and control group was taught without it (i.e. both groups by conventional method). Pre-test was administered before the experiment started. The experiment run for the duration of one month. After one month post-test was administered on both groups and the mean scores was calculated. The difference in the mean achievement scores are tested by using t-test at 0.05 level of significance.

Finally, the researcher concluded that the achievement of the students of experimental group is better than the achievement of the students of control group. So, mathematics teaching by using different manipulative materials causes better achievement than teaching without such manipulative materials.

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