

**DIFFICULTIES IN LEARNING VECTOR GEOMETRY  
AT SECONDARY LEVEL**

**A  
THESIS  
BY  
PRADEEP GAUTAM**

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

**SUBMITTED TO  
DEPARTMENT OF MATHEMATICS EDUCATION  
CENTRAL DEPARTMENT OF EDUCATION  
UNIVERSITY CAMPUS  
TRIBHUVAN UNIVERSITY  
KATHMANDU, NEPAL**

**2016**

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## Letter of Certificate

This is certify that Mr. Pradeep Gautam, a student of academic year 2069/2070 with campus roll no 220/2069, Exam roll no 281161 (2070) and T.U Regd. No. 6-1-53-407-2005 and Thesis No. 1099 has completed his thesis under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Nepal. The thesis entitled "**Difficulties in Learning Vector Geometry at Secondary Level**" embodies the result of his investigation conducting the period 2016 at the Department of Education, University Campus, Kirtipur, Kathmandu. I hereby, recommend and forward that his thesis be submitted for the evaluation as the partial requirements to award the Degree of Masters of Education.

.....

(Mr. Dipak Mainali)

Supervisor

.....

(Assot. Prof. Laxmi Narayan Yadav)

Head

Date : .....

**Letter of Approval**

A

Thesis

By

**Pradeep Gautam**

Entitled

**"Difficulties in Learning Vector Geometry at Secondary Level"** has been approved in partial fulfilment for requirements of Degree of Master of Education.

**Committee for the viva- voce**

**Signature**

- |   |       |
|---|-------|
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Date : .....

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Pradeep Gautam

## ABSTRACT

This study intended to explore the learning difficulties in vector geometry at secondary level and to find the way for minimizing difficulties. The study was based on a case study design. Researcher had faced difficulties on teaching and learning during the practice teaching as well as he was in secondary level. So, the researcher selected this problem as a research. It was hope that, it is most important to whom who are difficulties on vector geometry teaching and learning. The researcher selected Mathematics teacher, Head teacher and seven students as the respondent for the interview of selected school. The tools used in data collection procedure were class observational note, semi-structured interview and test. Collected data were analysed by the cross match approach, triangulation approach and draw conclusion with the help of learning disability theories, Bruner constructivist theory and Dr. Levine's all kind of minds theories.

The finding of the study shows that, there were myriads of difficulties. This had made both teacher and students' a passive agent in dealing with vector geometry teaching and learning. One component of arising difficulties on learning process in vector geometry was the pre-knowledge and poor geometrical background of students. And another was the traditional teaching strategies in vector geometry class by both trained and untrained teachers had remained as a main issues. Vector teaching is seems to be exam oriented rather than its application. The students' and teachers' both faced difficulty on vector geometry teaching and learning process because of the poor evaluation system, poor geometrical background, negligence for doing homework, lack of using instructional materials, non effective teaching learning management were some examples. To minimize such kinds of difficulties, there should be continuous communication among students and teachers and teaching strategy must be student centred. Students' had given opportunity to work alone and together in the class. Continuous assessment system should be taken in practice.

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