

**STUDENTS' MISCONCEPTION IN SCIENCE AT SECONDARY LEVEL:  
A QUEST OF EXPLORATION**

**A Thesis Submitted**

**By**

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**In Partial Fulfillment of the Requirements for the Masters Degree in  
Chemistry Education**

**Submitted To**

**Department of Science and Environment Education**

**University Campus**

**Tribhuvan University**

**Kirtipur, Kathmandu, Nepal**

**September, 2017**

*Letter of Certificate*

This is to certify that **Ms. Jimita Pokharel**, student of academic year 2070/2071 with Campus Roll No. **548**, Exam Roll No. **280753**, T.U Registration No. 9-2-48-2508-2009 has completed this thesis under the period prescribed by the rules and regulation of Tribhuvan University, Nepal. The thesis entitled "**Students' Misconception in Science at Secondary Level : A quest of Exploration**" embodies the result of her investigation. It is record of independent research work carried out by the researcher which has not been previously submitted for the award of any degree and other similar purpose. I hereby recommend and forward that this thesis be submitted for the partial requirements to award the degree of Master of Chemistry Education.

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### **Recommendation for Acceptance**

This is to certify that **Ms. Jimita Pokharel** has completed her M.Ed. thesis entitled “**Students' Misconception in Science at Secondary Level : A Quest of Exploration**” under my supervision during the period prescribed by the rules and regulation of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommend and forward her thesis to Department of Chemistry Education to organize final viva-voice.

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**(Supervisor)**

*Letter of Approval*

This thesis entitled "**Students' Misconception in Science at Secondary Level: A Quest of Exploration**" submitted by Ms. Jimita Pokharel in partial fulfillment of the requirements for the Master's Degree in Chemistry Education has been approved.

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**Declaration**

This dissertation contains no material which has been accepted for the award of other degree in my institutions. To the best of my knowledge and belief, this dissertation contains no material previously published by any authors except if acknowledgement has been made.

.....

Jimita Pokharel

### **Dedication**

This is dedicated to my respected parents Mr. Ishwari Pokharel, Mrs. Yashoda Pokharel and my sister Mrs. Smita Pokharel.

## Acknowledgement

My first obligation goes to the Department of Chemistry Education T.U, Kirtipur, Kathmandu, Nepal for providing me an opportunity to carry out this study.

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.....

Jimita Pokharel

### **Abstract**

This study entitled "Students' Misconception in Science at Secondary Level: A Quest of Exploration" was carried out with the aim of determining prevalent or dominant misconceptions in science among secondary level students and compare the results with different variable. Both Quan-qual research design of has been adopted. The population of the study was all the secondary schools from Tanahun district. Purposive sampling technique was used to select the schools from the defined population. The selected schools were more convenient for the researcher as they were near the researcher's home.

The highest number of students with misconception was found in chemistry followed by physics and biology. Most of the students had chosen their source of answer from their own intrinsic knowledge. Furthermore, it examined whether the number of students having misconception in those questions were related with gender and the type of school they study. The comparison of number of misconception with gender in different disciplines of science suggested that there is no significant difference between those variables. On the other hand, comparison of number of misconception with type of school showed that there was significant difference between the community school students' and private school students' misconception. In addition, the correlation of the students' misconception in different disciplines of science revealed that the correlation between physics and chemistry were very small while chemistry and biology were at medium level and the correlation between biology and physics were negligible.

The findings of this study can be used by science teachers in designing classroom activities and teaching strategies that could address the students' misconception. It will provide



some suggestions to the educational practitioners to adopt new strategies to avoid misconceptions and increase the probability of high achievement of students.

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