## ACKNOWLEDGEMENT

First of all praise the Lord to Almighty Jesus Christ because His blessing who can give me healthy, strength and peaceful. The writer would like to express sincere appreciation to Thesis Supervisor Prof. Dr. Ramlan Silaban, M.Si for his professional expertise, invaluable guidance, persistent, encouragement, patience, enthusiasm and generous contribution of his valuable time in supervising this thesis as well as conducting of this research. And also thanks to Prof. Dr. Retno Dwi Suyanti, M.Si, Dr. Ajat Sudrajat, M.Si and Dr. Marham Sitorus, M.Si as Thesis Examiner for their patience, guidance, assistance and comments in the development of writer's thesis. And then thanks a lot to Prof. Drs. Manihar Situmorang, M.Si, Ph.D as the writer's academic supervisor Gratitude and sincere appreciation are extended to all of lecture and staff in Chemistry Department of State University of Medan (Unimed).

The writer didn't forget to say thanks to principal and chemistry teacher of SMAN 2 Kisaran for giving the permission to conduct research in the school and also for students who participated. And grateful to Prof. Dr. Retno Dwi Suyanti, M.Si for assessing and standardization the innovative Student Worksheet (LKS) and validator instrument test on topic Acid and Base.

Especially thanks so much to beloved parents Mr. Tumanggor and Mrs. S Mahulae as the writer source inspiration who always give the writer love, encouragement, pray and support during the study. And thank you to brothers and sisters they are Swardi Harto SE, Hayenni S.Kep.Ns, Nellyana S.Pd and Andronikus, that always give the writer inspiration, support, motivation, suggestion, love and pray in all of writer's life in every condition until now. And thanks to best friends, Hariaty Purba, Putri dian hamian, Nova Haloho, Fridayuni Simanjuntak, Rina Sitindaon, Dian purnamasari and Elviana Manihuruk. And also for Bilingual Chemistry Education'12 (CESP 12) for all of your love and the last boarding house sri erliani Gurning and Nitha nainggolan for helping to give suggestion and their support. Finally The writer realized that it is still have a weakness in arrangement this thesis. But writer has given maximum effort to finish this thesis. Therefore, the writer receiver's cricism and suggestion to make this thesis be better. Hopefully, this thesis can be useful for the education development.

> Medan, Juni 2016 Writer

Lisnawati Tumanggor Reg.Number 4123332010