## ACKNOWLEDGEMENT

The first and foremost, the greatest thanks to the Almighty God Allah SWT for his grace and merciful in helping the writer to finish the thesis completely.

The thesis entitled The Difference Between Vitual Laboratory Media and Real Laboratory to Increase Student's Achievement in Seior High School on Learning Acid-Base Titration, was completely arranged as the requirement to get the Degree of Sarjana Pendidikan in Faculty of Mathematics and Natural Science in State University of Medan.

In this opportunity, I would like to give my gratitude to Prof. Dr. Albinus Silalahi, M.S as my thesis supervisor that give me so many suggestions and advices to arrange and finish this thesis. My gratitude also to the late Prof. Dr. Suharta, M.Si, Dr. Iis Siti Jahro, M.Si, Dr. Mahmud, M.Sc, Drs. Rahmat Nauli, M.Si as my examiner and to Dr. Zainuddin Muchtar M.Si as my academic supervisor. Also my gratitude to Prof. Dr. Ramlan Silaban, M.Si as the validator for character observation sheet, to Dr. Retno Dwi Suyanti, M.Si as the validator of research media and to Drs. Ani Sutiani, M.Si as the validator for research instrument. For all their comment, correction and suggestion in order to make this thesis completely arranged.

Then, I would like to thank to Prof. Drs. Motlan, M.Sc, Ph.D as the Dean of Faculty of Mathematic and Natural Science, to Prof. Dr. rer. nat Binari Manurung, M.Si as the Coordinator of Bilingual Program, to Dr. Iis Siti Jahro as the Secretary of Bilingual Program, to Drs. Jamalum Purba, M.Si as the Head of Chemistry Department, to Drs. Ani Sutiani, M.Si as the Head of Chemistry Education Program, and the all staff of chemistry department such as sister Vidya, brother Eriadi and brother Nizam. And also to Sir Syamsudin or usually called as "Pak Sam" as Bilingual staff. My thankful also to Muliadi, S.Pd, M.Si as the Headmaster of SMAN 1 Percut Sei Tuan, to Widiya Ningsih, S.Pd, M.Si as the Chemistry Teacher who guided me during the research conducting and also as the student's character observer and to Hj. Hidayati Hanum, S.Pd as the Headmaster of SMAN 5 Binjai where the writer done the instrument validation process. And those all for the administrative requirement in the research.

My special gratitude to my beloved parents, Saufi Hutapea, S.Pd.I and Ramayanti Hasibuan, to my beloved brothers, M. Yazid Rif'ad Hutapea and M. Nurul Yafi Hutapea and all my Hutapea and Hasibuan Family Members for their pray and motivation given to me during the writing process of this thesis. Thanks to my Solid partners, Biah, Debby, and Yogi, for being more than a best friend in helping me through my daily activity inside and outside campus. To my badminton partners; Andre, Indra, Rudi and Yogi for spending your time as our refreshing moment. To my best girls; Fenny, Lina and Melisa for time, joke, laugh and moment we shared and also for my all lovely members of Chemistry Education Study Program 2010, for what we had through together during the four years. For my brothers and sisters in HMI; Dedi, Mora, Yola, Sulis, Nurul Ilmi, Safwan, Tiara, Fai and many more, thanks for your support. For my friends in Field Experience Program in SMAN 2 Kisaran, because this field experience had inspired me to arrange the background of this research. And the last, thanks to Ilmi Fadhilah, for introducing Pak David B. Sianipar, M.T in helping me for the making of Virtual Laboratory Media, built by Macromedia Flash 8.

I have already done this thesis with my best, but still needed the suggestion from the reader in order to make it better. I hope this thesis can be useful and giving contribution to the reader and especially in education.

