ACKNOWLEDGEMENT

First and foremost, I would like to thankful to Almighty God, Jesus Christ, who give me mercy and blessing until I can finished this thesis well. Apart of my life, my parents, Ayahanda B. Siahaan and Ibunda Hervina Panjaitan, my beloved brothers, Herlan Idul Saputra Siahaan and Rockyando Siahaan, I would like to show my greatest appreciation to them.

Foremost, I would like to express my sincere gratitude to my advisor lecturer, Dr. Hj. Ely Djulia, M.Pd., who has supported me throughout my thesis with patient, motivation, enthusiasm and immense knowledge. Her guidance help me to arrange and writting this thesis. I give thankful because be my advisor with innovative way and highly knowledge.

Beside my advisor, I would like to thank the rest of my thesis committee: Dr. Syahmi Edi, M.Si., Dra. Melva Silitonga, MS., and Dra. Martina Restuati, M.Si. for their encouragement and insightful comments. My sincere thanks also given to Drs. Zulkifli Simatupang, M.Pd., beside as head of Biology Department but also father-like who guide in arranging this thesis. My sincere thanks also give to others lecturer who taught and guided me during in Biology major class.

My enormous appreciation to Mam Desy C. Sianturi, S.Pd., M.Si. in SMA Negeri 3 Medan for giving opportunity to use her classes and guiding me to handle the classes during my research and all students in XI Science 1 and XI Science 3 Academic Year 2014/2015 for their participation as my sample research.

Last but not least I would like offer my special thanks to my “Igreya” Small Group: Kak Sartika, Arta Ria Siadari, Lydia Trisnawati Silalahi, Saut Haryanto Manik and Septe Vionly Ambarita, who always give support and praying to do best in making this thesis. My best partner friend, Rani Afrida Tarigan, and all my Bilingual Education 2011, give thanks for their encouragement and motivation.

Medan, Juni 2015

Saraswati