

PREFACE

The author says the great praise and gratitude to God Almighty, for all the graces and blessings that provide health and wisdom to the author that this study can be completed properly in accordance with the planned time. This thesis entitled “The Effect Of Cooperative Learning Model at STAD (Student Teams Achievement Division) Type Assisted By Test Card of the Learning Outcomes at Subject Matter Measurement In Class X SMA Negeri 5 Medan Academic Year 2018/2019”. This thesis was prepared to obtain a Bachelor's degree of Physics Education (Sarjana Pendidikan Fisika), Faculty of Mathematics and Natural Science in State University of Medan.

On this occasion the author likes to thanks Mr Drs Jonny H Panggabean, M.Si, as Thesis Advisor who has provided guidance and suggestions to the author since the beginning of the study until the completion of this thesis. Thanks also to Dr. Rahmatsyah, M.Si, Dr. Wawan Bunawan, M.Pd., M.Si, and Dr. Juniastel Rajagukguk, M.Si, who have provide many advices and suggestions in completing this thesis. Thanks for my academic supervisor Drs. Pintor Simamora, M.Si. Thanks for coordinator bilingual Dr. Iis Siti Jahro, Msi and secretary bilingual. Thanks also for all Mr. and Mrs. lecturers and staff employees of Physics Department, Faculty of Mathematics and Natural Science in State University of Medan who have encourage the writer during the studying process.

Sincere appreciation was also presented to Principal of SMAN 5 Medan, Mr. Harris H. Simamora, M.Si, Physics teacher Mrs. Imelda M Sitohang, S.Pd and all teachers there, who had helped the author during the implementation of this research. And thanks also for my great family, students of SMAN 5 Medan . Especially, author also would say thanks to his lovely father Elias Hebron P Simangunsong, S.Th, lovely mother Suriati Br Gultom, Sister Yohana, Emi Tabita Mangunsong, Rachel Riski Simangunsong, Brother Hamonangan Simangunsong and all family. Thank for my friends in Bilingual Physics Education grade 2014 (Henny Sihombing, Yanti S Marbun, Dia Indriani br Sembiring, Rio, Helena Sihombing, May lastri, Maria Sitompul, Ade Novida, Cahya,), all my friend on Physic Unimed, PPLT Team SMAN 1 Tebing Tinggi 2017, all student in SMAN

1 Tebing Tinggi and SMAN 5 Medan, who have given loves, motivations and advices to the author.

The author has endeavored as much as possible in completing this thesis, but the author is aware there are many mistakes either in terms of content or grammar, then the author welcome for any suggestions and constructive criticism from readers for this thesis perfectly. The author hopes the contents of this paper would be useful in enriching the repertoire of knowledge.

Medan, November 2018

Author,

Ruth Hesti Mangunsong