PREFACE

The authors say the 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. Thesis entitled “The Effect of Cooperative Learning Model Type Student Teams Achievement Divisions (STAD) On Students Learning Outcomes in Topic Harmonic Vibration in Class X SMA N 1 Tanjung Morawa”.

On this occasion the authors likes to thank Dr. Alkhafi Maas Siregar, M.Si as thesis supervisor who has provided guidance and suggestions to the author since the beginning of the study until the completion of this thesis writing. Thanks also to Prof. Sahyar, M.M., Dr. Ridwan A.Sani M.Si., Dr. Juru Bahasa, M.Pd who have provided many advices and suggestions in completing this thesis. Thanks also to Jhonni Haratua Panggabean M.Si, as the Academic Supervisor. Thanks also to all Mr. and Mrs. Lecturer 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 1 Tanjung Morawa head master Mr.James, Mrs.Pardede Physics teacher and all teachers there who had helped the author during the implementation of this research. Especially, author also would say thanks to my parent father Mr. S.Sihombing (Alm), my great lovely mother Mrs. B. Samosir (Alm), my beloved ,my only one sister Triana Sihombing and only my brother in lau Mr.Pasaribu and my brothers Parlin Sihombing, Hendra Sihombing, Jhon Fery Sihombing, Robin Sihombing and sister in lau Mrs. Manalu and my beloved nephew Cinta Pasaribu, Cyrella Pasaribu and Jeovanka Sihombing, and for all of my family in PESP 2014 (Rini, Helena, Devi, Zullaiha, Maria, Era, Hakim, Daniel, Hendri, Henny, Yanti, Mesta,Yeni, Ade, Cahya, Indri, Ruth, Rio, Adventi, Winda, Pandi, Tri Boy, Larry, and Rido) my lovely best friend my PPL team in SMA N 1 Matauli Pandan. Then also thanks to Coordinator of Bilingual Mrs Dr. Iis Siti Jahro,M.Si and Secretary of Bilingual Mrs. Nora Susanti , S.Si, M.Sc, APt.
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, June 2018
Author,

Henny Sihombing
ID 4143322012