

PREFACE

Praise and gratitude to God Almighty for all His blessings and gifts so that this thesis can be completed properly. The thesis entitled "**The Implementation of Problem Based Learning Model to Increase Physics Learning Outcomes of Class XI MIA in SMA Parulian 1 Medan**" was submitted to obtain a Sarjana Pendidikan in Physics Education at the Faculty of Mathematics and Natural Sciences, State University of Medan.

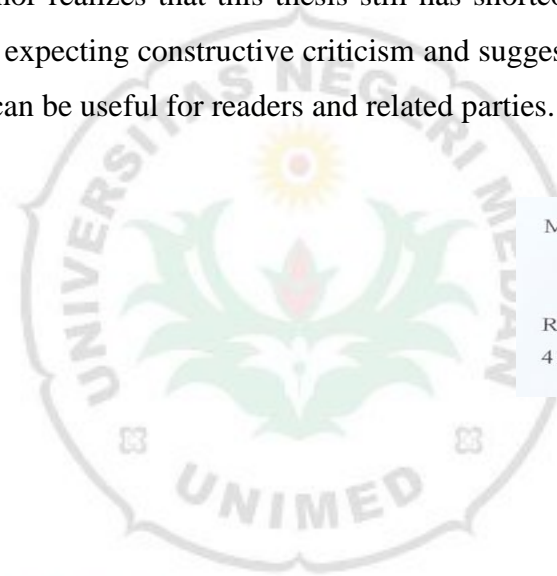
On this occasion the author would like to thank Mr. Prof. Dr. Makmur Sirait, M.Si as the thesis supervisor who has provided a lot of direction, guidance and advice to the author from the beginning to the completion of the preparation of this thesis. The author also thanks Mr. Dr. Rahmatsyah, M.Si, Mrs. Drs. Mariati Purnama Simanjuntak, M.Si and Mr.Drs. Togi Tampubolon, M.Sc., Ph.D as the examiner lecturer who has provided input and suggestions until the completion of the preparation of this thesis. To Mrs. Dr. Rita Juliani, M.Si as an academic supervisor who has always provided guidance, direction, support and advice while studying at Medan State University. Mrs. Dr. Dewi Wulandari, S.Si,M.Si., as the Head of the Physics Department, Mrs. Dr. Ely Djulia, M.Pd as the Bilingual Program Coordinator, and Mrs. Dr. techn. Marini Damanik, M.Sc., as Secretary of the Bilingual Program, who has assisted the author during the preparation of this thesis and during the lecture period at the State University of Medan. To Mrs. Pesta Silaban, S.Pd as a physics teacher at SMA Parulian 1 Medan who has helped and provided guidance to the author in conducting research.

The author especially expresses his gratitude to the author's parents, Mr. Paber Tamba and Mrs. Hotmala Sinaga for every support, love, prayer and attention to the author in completing his studies at the State University of Medan. The author also expresses gratitude to the brothers and sisters (Febry Sanjaya Tamba, Edyma Tamba and Christina Tamba).

The author also thanks himself for being able to complete the study well. The author would like to thank all friends in Bilingual Physics Class 2017 who accompanied them during the study process in class. Thank you to friends and other

itoks (Difahar Nilsa, Nia Audina Sitanggang, Noni Prince Jawak, Afridayanti Sitanggang and Debora Manurung). For my colleagues at NHKBP Belawan II, IKBKF, for my comrades in the Warga Sekret Group (Erwin Siregar, Willi Sibarani, Christy Sinaga, Yansen Hutapea, Rio Hutajulu), for Putri Rahel Natalia Pasaribu, Putri Panggabean and Abdul Butar-Butar and all their friends who cannot be mentioned one by one who have always been there and supported the writer in finishing this thesis.

The author realizes that this thesis still has shortcomings and deficiency; however, while expecting constructive criticism and suggestions, the author hopes that this thesis can be useful for readers and related parties.



Medan, October 20th 2022


Ronaldo M Tamba
4172121015

THE
Character Building
UNIVERSITY