

## PREFACE

Praise and gratitude the author prays to God Almighty who has bestowed His grace and guidance, so that the author can complete the preparation of the Thesis Final Project entitled "The Development of Virtual Laboratory To Improve Student Critical Thinking On The Teaching Of Gas Chromatography".

The preparation of this thesis is intended to obtain a bachelor's degree in education at the Chemistry Education Study Program, Faculty of Mathematics and Natural Sciences, Medan State University. The author realizes that in compiling this thesis he received a lot of help in the form of guidance, instructions and so on from various parties, for that the author does not forget to express his gratitude to:

1. The Chancellor of the State University of Medan who has given the author the opportunity to gain knowledge.
2. The Dean of the Faculty of Mathematics and Natural Sciences, State University of Medan, who has allowed the author to use the facilities while the author is studying so that he can complete this thesis.
3. Academic Advisor Mr. Dr. Zainuddin Muchtar, M.Si who patiently directs, guides, and always motivates so that this thesis can be completed properly.
4. Thesis Supervisor Prof. Drs. Manihar Situmorang, M.Sc.,Ph.D who has provided motivation, time and patience in providing guidance, direction, input, and convenience to the author until the completion of this thesis.
5. Lecturer Resource Person and Main Examiner who has provided suggestions and input in making Thesis Final Project.
6. All Lecturers of the Chemistry Education Study Program who have provided their knowledge during lectures.
7. Beloved family Mother and dear brothers and sisters, thank you for all the love and affection, the support and prayers that you pray always accompany my every step until now.
8. Mr. Febri Naldy Purba who has provided assistance during the process of working on this thesis.
9. Miss Laura Sinta Bella Sitorus S.Pd who has support and give attention as long as the writer do the thesis.

10. Colleagues in Bilingual Chemistry Education class 2018 who have given a lot of support so that the final project of this thesis can be completed and all parties that the writer cannot mention one by one who have helped to complete this thesis.

For the perfection of this thesis, the writer expects constructive criticism and suggestions from the readers. Finally, the writer hopes that this thesis can be useful for readers in general.

Medan, July 2022

Writer

(Mega Feronika Purba)

IDN. 4183131025

UNIVERSITAS NEGERI MEDAN  
UNIMED

THE  
*Character Building*  
UNIVERSITY