

## FOREWORD

Praise and thank to God for His grace so that the author can finish writing this thesis entitled " The Development An Innovative Teaching Material Based On Project Based Learning To Increase High Order Thinking Skill (HOTS) In Teaching Of Paper Chromatography" well to obtain a Bachelor's degree in Chemistry Education, Faculty of Mathematics and Science at Universitas Negeri Medan.

On this beautiful occasion, the author would like to express his gratitude to all those who were involved in the journey of writing this thesis. The author is grateful to the thesis supervisor, namely Prof. Drs. Manihar Situmorang, M.Sc., Ph.D who has given many services to guide the writer to continue her enthusiasm in completing the study from the beginning of the research until the completion of this thesis writing. The author is also grateful to the academic supervisor, Prof. Dr. Ramlan Silaban, M.Si., who has always motivated the author from the beginning of the lecture until the author finished her study at Universitas Negeri Medan. The authors also express gratitude to the examiners, namely Mrs. Dr. tech. Marini Damanik, M.Si., Mrs. Elfrida Ginting, S.Si., M.Sc., Ph.D and Mrs. Rini Selly, S.Pd., M.Sc., for every suggestion given for the perfection of this thesis. Thank you also to every validator lecturer Mr. Drs. Jamalum Purba, M.Si., Mrs. Dr. Sri Adelila Sari, M.Si., and Prof. Retno Dwi Suyanti, M.Si. for their willingness and services in validating teaching materials and instruments that have been made by the author for the benefit of this thesis as well. The author also expresses her gratitude to all Universitas Negeri Medan lecturers, employees and students who have been meritorious in every process from the beginning of the research to the completion of this thesis.

In particular, I would like to thank my beloved parents, father and mother who always continue to struggle to encourage me until now. Thank you to my oldest sister Ezra Yunita Showraya and my younger siblings Kasih Marito, Kesih Romaito, Suryani Arta, my little brother Gabriel Andrian Maju and Darma Christan who have always been my support system even though we often fight at home. Thank you for being a prayer for me, keep growing and faithful.

Thank you for the place where I grew up, for the church, campus, UKMKP UP-FMIPA and IKBKK services, thank you to everyone involved in it. Unknowingly, you played a very important role in growing up and helping me become a more humble person. I'm proud of you all. Keep being yourself.

Thank you also to my sister, Kak Frisca Donna Purba and Kak Rimma Siagian, for my KTB, Kak Dhonna, Kak Christine Sitorus, Kak Surya Sitorus, Kak Anna Panjaitan, Kak Devi, Kak Afrilia Marbun, Kak Kumala Kaban, Kak Perjin Sibarani, Bang Frengky Sianipar, Frida Claudia Sianipar, Wenny Christin Simarmata, Siska Agustina Manurung. Keep spirit for us.

Thank you to my little sister and brothers, for Lely Mahulae, Shinta Sitinjak, Parsaoran Rajagukguk, David Sihombing, Yansen Hutapea and Rivaldo Siregar, who always support me to be a good sister for you. Keep spirit and always being a bless in your surrounding, my sweetheart.

Thank you to all my partners, to Frida Sianipar, Ica Marbun, Ayu Sitorus, Mindo Naibaho, Hengki Silaen, Kevin Siagian, Evi Nainggolan, Irvan Nainggolan and Deal Zega who became friends to exchange ideas and support each other when the storms of life stopped. Thank you, for every event.

Thank you to my bestie, Frida and Wenny. It is not a coincidence that God brought us together with all our backgrounds and stories. Keep spirit to support each other. You guys are the best.

And to everyone whose names I cannot mention one by one, I am very grateful for your prayers and services for me so far. May God always bless you wherever you are.

Medan, July 09<sup>th</sup> 2021

Author,



Elisabeth May Dwi Wenty

IDN. 4171131012