

PREFACE

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Thesis entitled " The Effect of Cooperative Learning Model Type of JIGSAW Based on Mind Mapping on Student's Learning Outcomes in The Temperature and Heat Subject Matter in Class X Even Semester SMA Negeri 3 Medan Academic Year 2013/2014", prepared to obtain a Bachelor's degree Physical Education, Faculty of Mathematics and Natural Science in State University of Medan.

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

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