

TABLE OF CONTENTS

	<i>Page</i>
APPROVAL SHEET	i
ORIGINAL STATEMENT PAGE	ii
FINAL THESIS PUBLICATION APPROVAL PAGE FOR ACADEMIC INTEREST	iii
BIOGRAPHY	iv
ABSTRACT	v
PREFACE	vi
TABLE OF CONTENTS	ix
LIST OF FIGURES	xii
LIST OF TABLES	xiii
LIST OF ATTACHMENTS	xiv
CHAPTER I. INTRODUCTION	1
1.1. Background	1
1.2. Problem Identification	4
1.3. Scope	5
1.4. Problem Formulation	5
1.5. Problem Limitation	6
1.6. Research Objectives	6
1.7. Research Benefits	6
1.8. Operational Definition	7
CHAPTER II. LITERATURE REVIEW	9
2.1. Theoretical Framework	9
2.1.1. Development of Test Instruments	9
2.1.2. Instrument	9
2.1.3. Test	10
2.2. Higher Order Thinking Skills (HOTS)	17
2.2.1. Critical Thinking Skills	19

2.2.4. Creative Thinking Skills	21
2.2.5. Problem Solving	22
2.3. Concept of Higher Order Thinking Skills.....	23
2.3.1. Definition.....	23
2.3.2. Characteristics of Higher Order Thinking Skills.....	23
2.4. Translational Dynamics	26
2.4.1. Concept Maps	26
2.4.2. Rigid Body Balance.....	27
2.5. Relevant Research.....	33
2.6. Framework of Thinking	36
CHAPTER III. RESEARCH METHODS.....	39
3.1. Location and Time of Research	39
3.2. Types of Research.....	39
3.3. Population and Research Sample.....	40
3.3.1. Population.....	40
3.3.2. Research Sample.....	40
3.4. Research Variable	40
3.4.1. Independent Variable.....	40
3.4.2. Dependent Variable	40
3.5. Research Design.....	41
3.6. Data Collection Techniques	43
3.6.1. Test	43
3.6.2. Questionnaire.....	44
3.6.3. Test Instruments Based on Higher Order Thinking Skills (HOTS)	44
3.7. Research Instruments	45
3.8. Research Procedure.....	47
3.9. Data Analysis	54
3.9.1. Test Validity	54
3.9.2. Reliability	57
3.9.3. Test Difficulty Level	58
3.9.4. Discriminating Power	58

3.9.5. Effectiveness of Distractors	59
3.9.6. Eligibility Criteria for HOTS Based Instrument	60
CHAPTER IV. RESEARCH RESULTS AND DISCUSSION	61
4.1. Research Result	61
4.1.1. Analysis Stage	61
4.1.2. Design Stage.....	62
4.1.3. Development Stage	64
4.1.4. Implementation Stage.....	77
4.1.5. Evaluation Stage.....	88
4.2. Discussion	92
CHAPTER V. CONCLUSION AND SUGGESTION.....	94
5.1. Conclusion	94
5.2. Suggestion.....	95
REFERENCES	96
ATTACHMENT.....	101