## LIST OF CONTENT

<table>
<thead>
<tr>
<th>Content</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legalization Sheet</td>
<td>i</td>
</tr>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Acknowledgement</td>
<td>iii</td>
</tr>
<tr>
<td>List of Content</td>
<td>vi</td>
</tr>
<tr>
<td>List of Table</td>
<td>x</td>
</tr>
<tr>
<td>List of Figure and Picture</td>
<td>xii</td>
</tr>
<tr>
<td>List of Appendix</td>
<td>xiii</td>
</tr>
</tbody>
</table>

### CHAPTER I INTRODUCTION

1.1. Research Background                       | 1    |
1.2. Problem Identification                    | 4    |
1.3. Problem Limitation                        | 5    |
1.4. Problem Statements                        | 5    |
1.5. Research Objectives                       | 6    |
1.6. Research Benefit                          | 6    |
1.7. Operational Definition                    | 6    |

### CHAPTER II LITERATURE REVIEW

2.1. The Nature of Learning Chemistry          | 8    |
2.1.1. Enhancement Thinking Skills Learning Strategy | 8    |
2.1.2. Creative Thinking Skills                | 11   |
2.1.3. Collaborative Learning                  | 15   |
2.1.4. E-Learning                              | 17   |
2.1.5. Learning outcomes                       | 18   |
2.1.6. DirectInstruction Model                 | 20   |
2.1.7. Acid and Base Topic                     | 22   |
2.2. Relevant Research Result                  | 29   |
2.3. Thinking Framework                        | 32   |
2.4. Research Hypothesis                       | 33   |
CHAPTER III RESEARCH METHODOLOGY

3.1. Research Location and Research Objects 35
3.2. Research Population and Sample 35
3.3. Research Variables 35
3.4. Research Instrument for Collecting Data 36
3.4.1. Test of Creative Thinking Skills 36
3.4.2. Test of Students Achievement 37
3.4.3. Collaborative Learning Observation 38
3.5. The Procedure of Research 39
3.5.1. Implementation of Research Design 39
3.6. Research Instrument 42
3.6.1. Validity Test 42
3.6.2. The Reliability 43
3.6.3. The Difficulty Level 43
3.6.4. Different Index 44
3.7. Technique for Collecting the Data 45
3.8. Data analysis Techniques 45
3.8.1. Normality Test 45
3.8.2. Homogeneity Test 46
3.8.3. Normalized Gain 46
3.8.4. Hypothesis Testing 47
3.8.5. Criterion of Accepted Hypothesis 48

CHAPTER IV RESULT AND DISCUSSION

4.1. Research Result 50
4.2. Data Analysis of Research Instrument 50
4.2.1. Validity of Item test  
4.2.2. Reliability Test  
4.2.3. Difficulty Level  
4.2.4. Different Index  
4.2.5. Distractor X  
4.3. Achievement of Research  
4.3.1. The Analysis Data of Students’ Achievement before Implementing the Teaching Treatment  
4.3.2. The Analysis Data of Students’ Achievement after Implementing Teaching Treatment  
4.3.3. Normalized Gain Research Data  
4.3.4. Creative Thinking Skills Achievement  
4.4. Test of Research Treatment  
4.4.1. Normality Test Research Data  
4.4.2. Homogeneity Data  
4.4.2.1. Homogeneity Data of Pretest  
4.4.2.2. Homogeneity Data of Posttest  
4.4.2.3. Homogeneity Data of Normalized Gain  
4.5. Hypothesis Testing  
4.5.1. First Testing  
4.5.2. Second Hypothesis  
4.5.3. Third Hypothesis  
4.5.4. Fourth Hypothesis  
4.6. Collaborative Learning Observation Result  
4.7. Discussion  
4.7.1. The difference of students achievement that is taught by Thinking Skills Enhancement Learning Strategy based on collaborative using eXe Learning with Direct Instruction  
4.7.2. The difference of Creative thinking kills students achievement  
4.7.3. The interaction of both model with creative thinking skill with students achievement
4.7.4. The relation between students creative thinking skills with students achievement

CHAPTER V CONCLUSION AND SUGGESTION

5.1. Conclusion

5.2. Suggestion

References