

LIST OF APPENDICES

1. Learning Syllabus	133
2.1. Lesson Plan of Concept Mapping.....	135
2.2. Lesson Plan of Mind Mapping.....	144
2.3. Lesson Plan of Argument Mapping.....	152
2.4. Lesson Plan of Direct Instruction	162
3. Learning Topic of Human Locomotor System	170
4. Critical Thinking Test	180
5. Problem Solving Test	184
6. Test of Science-Related Attitudes (TOSRA)	198
7. Rubric of Students' Critical Thinking Tests	203
8. Rubric of Students' Problem Solving Tests	204
9. Scale Allocation and Scoring for Each Item of TOSRA	206
10. Information and Consent Forms	207
11.1. Grading of Concept Mapping	209
11.2. Grading of Mind Mapping	210
11.3. Grading of Argument Mapping	211
12.1. Description of Critical Thinking Pretest for Learning Techniques ...	212
12.2. Description of Normality Tests for Critical Thinking Pretest	214
12.3. Description of Critical Thinking Post-test for Learning Techniques ..	214
12.4. Description of Normality Tests for Critical Thinking Post-test	216
12.5. Description of High and Low Science-Related Attitudes on Critical Thinking Skills	216
12.6. Description of Normality Tests for High and Low Science-Related Attitudes on Critical Thinking Skills	217
12.7. Description of Problem Solving Pretest for Learning Techniques	218
12.8. Description of Normality Tests for Problem Solving Pretest	220
12.9. Description of Problem Solving Post-test for Learning Techniques ..	220
12.10. Description of Normality Tests for Problem Solving Post-test	222
12.11. Description of High and Low Science-Related Attitudes on Problem Solving Skills	222
12.12. Description of Normality Tests for High and Low Science-Related	

Attitudes on Problem Solving Skills	223
12.13. The Effects of Learning Techniques on Critical Thinking Skills	224
12.13. The Effects of Science-Related Attitudes on Critical Thinking Skills	224
12.13. The Interactions Between Learning Techniques and Science-Related Attitudes on Critical Thinking Skills	224
12.13.1. Post Hoc Tests of Learning Techniques on Critical Thinking	224
12.14. The Effects of Learning Techniques on Problem Solving Skills	225
12.14. The Effects of Science-Related Attitudes on Problem Solving Skills	225
12.14. The Interactions Between Learning Techniques and Science-Related Attitudes on Problem Solving Skills	225
12.14.1. Post Hoc Tests of Learning Techniques on Problem Solving	225
13.1. Product of Concept Mapping	226
13.2. Product of Mind Mapping	231
13.3. Product of Argument Mapping	233
14. Research Documentation	236

