

## LIST OF APPENDIXS

Appendix 1. Syllabus .....	68
Appendix 2. Validation by Material Expert Validator.....	71
Appendix 3. Validation by Media Expert Validator.....	75
Appendix 4. Validation by a Chemistry Teacher Validator.....	78
Appendix 5. Student Response Questionnaire .....	82
Appendix 6. Teacher needs analysis questionnaire .....	84
Appendix 7. Student needs analysis questionnaire.....	85
Appendix 8. Teacher interview results .....	87
Appendix 9. Teacher Component Observation Results.....	89
Appendix 10. Student Observation Results.....	90
Appendix 11. Results of Teacher Needs Analysis.....	91
Appendix 12. Results of Student Needs Analysis .....	93
Appendix 14. Results of Media Validation by Media Experts.....	100
Appendix 15. Recapulation of material validation by material experts.....	106
Appendix 16. Recapulation of media validation by media experts .....	107
Appendix 17. Recapulation of validation by Chemistry Teachers.....	108
Appendix 18. Recapulation of Student Response .....	110
Appendix 19. Validation Statement Sheet .....	111
Appendix 20. Media Audio-Visual Powtoon-Based .....	135
Appendix 21. Letters.....	140
Appendix 22. Documentations .....	140

