TABLE OF CONTENTS

TOPIC

PAGE NO

Declaration	i
Certificate	ii
Acknowledgement	iii
Table of Contents	vi
List of Tables	Х
List of Appendices	X

CHAPTER 1: CONCEPTUAL FRAMEWORK

1.0	Introduction	1
1.1	Importance of Biology	2
1.2	Meaning of Biological Science	3
1.3	Scope of Biology	4
1.4	Aims of Teaching Biological Science	5
1.5	Objectives of Teaching Biology	6
1.6	Guiding Principles of Teaching Biology	6
1.7	Present Scenario of Teaching Biology	8
1.8	Role of Teacher in Teaching Biology	9
1.9	Competencies of a Biology Teacher	10
1.10	Importance of Multimedia in Education	12
1.10.1	General Meaning of Multimedia	12
1.10.2	Etymological Meaning of Multimedia	12
1.10.3	Definition of Multimedia	12
1.10.4	History of Multimedia	13
1.10.5	The Meaning of Multimedia has Expanded	13
1.10.6	Use of the Term "Multimedia" in Education	13

1.10.7	Teaching of Biology through Multimedia	15
1.10.8	Multimedia as an Educating / Learning Medium	15

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.0 Introduction	17
2.1 Review of Studies Related to Innovative Methods of Teaching	18
2.2 Review of Studies Related to Teaching of Biology	38
2.3 Implications of the Review of Related Studies for the Present Study	41

CHAPTER 3: METHODOLOGY

3.0 Introduction	44
3.1 Rationale for the Present Study	44
3.2 Statement of the Problem	47
3.3 Objectives of the Study	47
3.4 Operationalization of Terms	47
3.5 Hypotheses	48
3.6 Delimitation of the Study	48
3.7 Population of the Study	48
3.8 Sample of the Study	49
3.9 Methodology of the Study	49
3.10 Design of the Study	49
3.11 Procedure of the Study	50
3.11.1 Phase I: Development of Multimedia Instructional Package and Tools	50
3.11.2 Phase II: Administering the Pre-test	51
3.11.3 Phase III: Implementation of the Developed Multimedia Instructional Package	51
3.11.4 Phase IV: Administering the Post-test and Reaction Scale	51
3.12 Tools for Data Collection	51
3.12.1 A Pre-test and a Post-test	51

3.12.2	Reaction Scale for Students	52
3.12.3	Reaction Scale for Biology Teachers	52
3.13	Data Collection	52
3.14	Data Analysis	53

CHAPTER 4: DATA ANALYSIS, INTERPRETATION AND FINDINGS

4.0	Introduction	54
4.1	Scores of Students at the Pre-test and Post-test (Control Group)	55
4.2	Scores of Students at the Pre-test and Post-test (Experimental Group)	56
4.3	Employment of t-test	58
4.4	Reaction of Students on Teaching of Biological Sciences through Multimedia Package in Terms of Frequencies and Chi- Square Analysis	60
4.5	Reaction of Biology Teachers on Multimedia Software Instructional Package to Teach Biological Sciences in Terms of Frequencies and Chi- Square Analysis	68
4.6	Findings	76
4.6.1	The Multimedia Instructional Software Package was found to Be effective in teaching Biological Sciences	76
4.6.2	Reaction of Students towards Biology through Multimedia Software Instructional Package in Terms of expected frequencies and observed frequencies against equal probability has been found to be effective	77
4.6.3	Reaction of Biology teachers on Multimedia Software Instructional Package in teaching of Biological Sciences in terms of expected frequencies and observed frequencies against equal probability has been found to be effective	78

CHAPTER 5: SUMMARY, DISCUSSIONAND SUGGESTIONS

5.0 Introduction	79
5.1 Review of related literature	80
5.2 Implications of the review of related studies for the present	
Study	81

5.3 Rationale for the present study	82
5.4 Statement of the problem	85
5.5 Objectives of the Study	85
5.6 Operationalization of Terms	85
5.7 Hypotheses	86
5.8 Delimitation of the Study	86
5.9 Population of the Study	87
5.10 Sample of the Study	87
5.11 Methodology of the study	87
5.11.1 Design of the Study	87
5.11.2 Procedure of the Study	88
5.11.2.1 Phase I: Development of Multimedia Instructional Software Package and Tools	88
5.11.2.2 Phase II: Administering the Pre-test	89
5.11.2.3 Phase III: Implementation of the Developed Multimedia Instructional Package for Experimental group	89
5.11.2.4 Phase IV: Administering the Post-test and Reaction Scale	89
5.12 Tools for Data Collection	89
5.12.1 A Pre-test and a Post-test	89
5.12.2 Reaction Scale for Students	90
5.12.3 Reaction Scale for Biology Teachers	90
5.13 Data Collection	90
5.14 Data Analysis	91
5.15 Findings	91
5.16 Discussion	93
5.16.1 Psychological Foundations and Importance of Multimedia Package in teaching and learning process	93
5.16.2 Critical review of Multimedia Package	95
5.17 Suggestions for Further Research in This Field	96
5.18 Conclusion	97
BIBLIOGRAPHY	98