

TABLE OF CONTENTS

	Page
ABSTRACT (THAI)	I
ABSTRACT (ENGLISH)	III
ACKNOWLEDGEMENTS	V
TABLE OF CONTENTS	VI
LIST OF TABLES	XI
LIST OF FIGURES	XII
LIST OF ABBREVIATIONS	XIII
CHAPTER	
1 INTRODUCTION	1
1.1 Background of the Study	1
1.2 The Statement of the Problem	3
1.3 Rationale of the Study	4
1.4 Research Objectives	5
1.5 Research Questions	5
1.6 Significance of the Study	5
1.7 Scope and Limitations of the Study	6
1.8 Operational Definitions of Key Terms	7
1.9 Chapter Summary	8
2 LITERATURE REVIEW	9
2.1 Connectivism.....	9
2.1.1 Definition of Connectivism.....	10
2.1.2 Connectivism in Relation with Other Learning Theories.....	11
2.1.3 Knowledge and Learning in Connectivism.....	13
2.1.3.1 Knowledge in Connectivism	13
2.1.3.2 Learning in Connectivism	14
2.1.4 Principles and Characteristics of Connectivism.....	14
2.1.5 Learning Model in Connectivism	16
2.2 Technology.....	17
2.2.1 Characteristics of Technology Selection	17
2.2.2 Social Technologies	18
2.2.2.1 Definition of Social Technology.....	18
2.2.2.2 Social Networking Sites (SNSs)	19

TABLE OF CONTENTS (Continued)

	Page
2.3 General Pedagogical Knowledge (GPK).....	19
2.3.1 Definitions of GPK.....	19
2.3.2 Dimensions and Subdimensions of General Pedagogical Knowledge.	21
2.3.3 Measurements of General Pedagogical Knowledge.....	21
2.4 Connectivist Learning Environment (CLE)	22
2.4.1 Definitions of Connectivist Learning Environment (CLE).....	22
2.4.2 Connectivist Learning Networks	22
2.4.2.1 Learning Nodes.....	23
2.4.2.2 Learning Connection	24
2.4.2.3 Personal Learning Environments (CLEs) and Personal Learning Networks (PLNs)	24
2.4.3 Connectivist Learning Process	25
2.4.4 Connectivist Learning Interaction	26
2.4.5 Connectivist Learning Skills.....	28
2.4.6 Connectivist Learning Activities.....	31
2.5 Challenges of Connectivism and Factors influencing Learning in an Online Environment.....	31
2.5.1 Challenges of Connectivism	31
2.5.2 Factors Influencing Learning in Online Environment.....	33
2.5.2.1 Factors Influencing Learners' Retention	33
2.5.2.2 Factors Influencing Learners' Engagement.....	34
2.5.2.3 Factors Influencing Learning Process and Learning Outcomes	35
2.6 Previous Connectivism-based Empirical Studies and Identification of Theoretical and Practical Gaps	36
2.7 Conceptual Framework of the CLE	37
2.8 Chapter Summary	38
3 RESEARCH METHODOLOGY	39
3.1 Research Design.....	39
3.2 Research Setting	39
3.3 Research Participants	40
3.3.1 Pre-service English Teachers (PETs).....	40
3.3.2 Experienced English Teachers	41
3.4 Research Instruments.....	42

TABLE OF CONTENTS (Continued)

	Page
3.4.1 Connectivist Learning Environment (CLE)	42
3.4.1.1 The Construction of the CLE.....	43
3.4.1.2 Home page.....	44
3.4.1.3 Personal Page	45
3.4.1.4 Experts' Checks on the CLE (a So-called ELT Nexus Website).....	46
3.4.2 Learning Modules.....	46
3.4.2.1 Learning Modules	46
3.4.2.2 Validation of Learning Modules.....	47
3.4.3 Learning Activities	48
3.4.3.1 Description of Learning Activities.....	48
3.4.3.2 Validation of Learning Activities.....	49
3.4.4 Pre-test 1, Pre-test 2, and Posttest	49
3.4.4.1 Description of Pre-test 1, Pre-test 2 and Post-test	49
3.4.4.2 Validation of Pre-test 1, Pre-test 2 and Post-test	51
3.4.5 Online Reflective Journal	52
3.4.5.1 Description of Online Reflective Journal	52
3.4.5.2 Validation of Online Reflective Journal	52
3.4.6 Online Survey.....	53
3.4.6.1 Description of Online Survey.....	53
3.4.6.2 Validation of Online Survey.....	55
3.4.7 Semi-structured Interview	55
3.4.7.1 Description of Semi-structured Interview	55
3.4.7.2 Validation of Semi-structured Interview	56
3.5 Data Collection Procedures	57
3.6 Data Analysis.....	59
3.7 Pilot Study	61
3.7.1 Reflection and Modification	61
3.7.1.1 Research Instruments.....	61
3.7.1.2 Others.....	63
3.8 Chapter Summary	64
4 RESEARCH FINDINGS.....	65
4.1 PETs' Improvement of GPK.....	65
4.2 PETs' Possible Ways of GPK Improvement.....	67

TABLE OF CONTENTS (Continued)

	Page
4.2.1 PETs' Levels of Interaction	67
4.2.1.1 At the Operation Level.....	67
4.2.1.2 At the Wayfinding Level.....	69
4.2.1.3 At the Sense-making Level.....	70
4.3 PETs' Perceptions of the Usefulness of Connectivist Learning Environment (CLE)	75
4.2.2 PETs' Perceptions of Online Learning Contents.....	79
4.2.3 PETs' Perceptions of Online Learning Activities	83
4.2.4 The Contribution of CLE to PETs' Future Profession.....	89
4.2.5 PETs' Recommendations for Improvement of the CLE.....	90
5 DISCUSSION & CONCLUSIONS.....	92
5.1 PETs' Improvement of GPK.....	92
5.2 Aspects of the CLE.....	93
5.2.1 CLE's Distinctive Features	93
5.2.2 Learning Conditions	93
5.2.2.1 Learner Autonomy	94
5.2.2.2 Connectedness.....	95
5.2.2.3 Diversity	95
5.2.2.4 Openness.....	96
5.2.2.5 Anonymity	96
5.2.3 Comprehensive Online Learning Resources	96
5.2.4 Diverse Online Learning Activities.....	98
5.2.5 Learning skills.....	100
5.2.6 Learning Interactions	100
5.3 Implications of the study	101
5.3.1 The Creation of an Online Learning Environment (CLE)	101
5.3.2 The Integration of Technology in Training PETs	104
5.4 Limitations	104
5.5 Recommendations for Future Study.....	105
5.6 Conclusion and Final Remarks	105

TABLE OF CONTENTS (Continued)

	Page
REFERENCES	107
APPENDICES	126
APPENDIX A PRELIMINARY SURVEY	127
APPENDIX B EVALUATION FORM OF THE ELT NEXUS WEBSITE	130
APPENDIX C GUIDELINES FOR LEARNING ACTIVITIES	132
APPENDIX D EXPERTS' EVALUATION OF LEARNING ACTIVITIES	133
APPENDIX E TEST SPECIFICATIONS FOR PRE- & POST-TESTS	135
APPENDIX F PRETESTS AND POST-TEST	136
APPENDIX G ONLINE REFLECTIVE JOURNAL WRITING	166
APPENDIX H ONLINE SURVEY	167
APPENDIX I A SEMI-STRUCTURED INTERVIEW GUIDE (ENGLISH VERSION)	171
APPENDIX J INFORMED CONSENT FORM (ENGLISH VERSION).....	173
APPENDIX K INFORMED CONSENT FORM (VIETNAMESE VERSION).....	177
APPENDIX L A LETTER OF REQUEST FOR DATA COLLECTION.....	181
APPENDIX M BACKGROUND QUESTIONNAIRE (EXPERIENCED TEACHERS)	182
APPENDIX N INFORMED CONSENT FORM FOR THE INTERVIEW (ENGLISH VERSION)	183
APPENDIX O INFORMED CONSENT FORM FOR THE INTERVIEW (VIETNAMESE VERSION).....	184
APPENDIX P AN INVITATION EMAIL (FOR PETS).....	185
APPENDIX Q AN INVITATION EMAIL (FOR EXPERIENCED TEACHERS)	186
APPENDIX R AN INVITATION EMAIL (ONLINE SURVEY)	187
APPENDIX S A THANK-YOU EMAIL FOR THE PARTICIPATION IN THE INTERVIEW..	188
APPENDIX T DETAILED SCHEDULE FOR THE RESEARCH STUDY	189
APPENDIX U INSTRUCTIONAL GUIDANCE ON HOW TO USE THE CLE	191
CURRICULUM VITAE	200

LIST OF TABLES

Table	Page
2.1 Definitions of General Pedagogical Knowledge (GPK)	20
3.1 Demographics of Novice Participants (PETs)	40
3.2 Demographics of Experienced Participants (In-service English Teachers)	40
3.3 Learning Modules for the Connectivist Learning Environments (CLE)	47
3.4 A Summary of Learning Activities in the CLE	48
3.4 A Summary of Learning Activities in the CLE (Cont.).....	49
3.5 A Summary of Methods of Data Collection and Analysis	61
4.1 The Comparison of Pre-tests 1 and 2 at 4-week Interval	65
4.2 The Results of the Pairs Sample T-test for Pre-tests 1 and 2	66
4.3 Descriptive Statistics for Pre-tests 1, Pre-test 2 and Post-test	66
4.4 Pairwise Comparisons among Pre-tests 1, 2 and Post-test	66
4.5 The Top 5 Participants with the Most Progress in GPK	67
4.6 Top 5 Participants' Login Times and Interactive Duration Compared to the Whole Participants of the Study (n=40)	68
4.7 The 5 Selected PETs' Participation in the Learning Activities on the CLE in a 9-week Time	69
4.8 Top 5 Participants' Frequency of Interactions with Provided Learning Resources and Other Participants in a 9-week Duration	69

LIST OF FIGURES

Figure	Page
2.1 Conceptual Principles for Learning in the CLE (Siemens, 2005)	15
2.2 Connectivism & Previous Learning Theories Learning Model (AlDahdouh et al., 2015).....	16
2.3 The SECTIONS Model (Bates, 2019).....	18
2.4 Four-stage Connectivist Learning Process (Downes, 2010).....	26
2.5 Connectivist Interaction and Cognitive Engagement Framework (Wang et al., 2014) .28	28
2.6 A Conceptual Framework of Essential Skills for Learning in a CLE	30
2.7 A Conceptual Framework for Enhancing PETs' GPK.....	38
3.1 The Procedure of Selecting Participants for the Study.....	42
3.2 The Construction of the Connectivist Learning Environment (CLE) for this Study.....	44
3.3 The Prototype (Homepage) of the CLE	45
3.4 The Prototype (Personal Page) of the CLE	46
3.5 The Time for Conducting Pre-test 1, Pretest 2 & Post-test.....	51
3.6 The Process of Constructing and Validating the Online Survey.....	54
3.7 The Process of Constructing the Interview Guide for the Study.....	57
3.8 Flow Chart of 3-phase Data Collection Procedures	59
4.1 PETs' Perceptions of Learning Contents	81
4.2 PETs' Most Favorite Learning Contents.....	81
4.3 PETs' Perceptions of Learning Activities.....	85
4.4 PETs' Most Favorite Learning Activities	85
4.5 PETs' Three Most Frequently Joined Learning Activities.....	87
4.6 PETs' Three Rarely Joined Activities	87
5.1 Cognitive Engagement in a 6-stage Learning Process.....	101

LIST OF ABBREVIATIONS

CK	Content Knowledge
CLE	Connectivist Learning Environment
DK	Distributive Knowledge
EFL	English as a Foreign Language
ELT	English Language Teaching
GPK	General Pedagogical Knowledge
LMS	Learning Management System
NL	Networked Learning
PCK	Pedagogical Content Knowledge
PETs	Preservice English Teachers
PLEs	Personal Learning Environments
PLNs	Personal Learning Networks
SDL	Self-directed Learning
TDTU	Tôn Đức Thắng University
TKT	Teaching Knowledge Test