Investigating a computer-assisted language learning approach for the development of second language word recognition from speech

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Investigating a computer-assisted language learning approach for the development of second language word recognition from speech

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A thesis submitted for the degree of PhD (Education)

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14th July 2015
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I hereby certify that the work embodied in this thesis contains published papers and scholarly work of which I am a joint author. I have included as part of the thesis a written statement, endorsed by my supervisor, attesting to my contribution to the joint publications and scholarly work (see appendix 1.1).

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Publications and Manuscripts Arising from this Thesis


# Table of Contents

Statement of Originality ........................................................................................................ iii
Statement of Collaboration ...................................................................................................... iv
Acknowledgement of Authorship ............................................................................................ v
Thesis by Publication ................................................................................................................ vi
Permission Regarding Copyright .............................................................................................. vii
Acknowledgements ................................................................................................................ viii
Publications and Manuscripts Arising from this Thesis ............................................................. ix
Table of Contents .................................................................................................................... x
List of Tables ............................................................................................................................ xvii
List of Figures ........................................................................................................................... xix
List of Abbreviations ............................................................................................................... xix
Abstract ..................................................................................................................................... xx

## Chapter 1: Introduction ......................................................................................................... 1

1.1 Background and Context ................................................................................................. 1
1.2 Research Questions ......................................................................................................... 2
1.3 Thesis Structure ............................................................................................................. 2
  1.3.1 Overview .................................................................................................................. 2
  1.3.2 Research Paper 1 ..................................................................................................... 3
  1.3.3 Research Paper 2 ..................................................................................................... 3
  1.3.4 Research Paper 3 ..................................................................................................... 4
  1.3.5 Research Paper 4 ..................................................................................................... 5
1.4 Ethics ............................................................................................................................  5

## Chapter 2: Literature Review .............................................................................................. 8

2.1 Overview .......................................................................................................................... 8
2.2 Word recognition from speech ....................................................................................... 10
  2.2.1 Acquiring the ability to recognise words from speech: emergentist paradigms ........... 12
  2.2.2 Attributes of the speech signal: a source of difficulty for L2 WRS ......................... 14
    2.2.2.1 Rapidity of the speech signal ............................................................................. 14
    2.2.2.2 The blended nature of the speech signal ............................................................. 16
Chapter 3 .......................................................................................................................... 52
Preamble to research paper 1: “Recognition of high frequency words from speech as a predictor of L2 listening comprehension” .......................................................... 52

3.1 Introduction .............................................................................................................. 54
3.2 Literature review .................................................................................................... 55
   3.2.1 Models of L2 listening comprehension .............................................................. 55
   3.2.2 The application of word knowledge in the prediction of L2 listening comprehension ................................................................. 58
   3.2.3 The present study ........................................................................................... 60
3.3 Research questions .................................................................................................. 62
3.4 Materials and methods ............................................................................................ 63
3.4.1 Participants ................................................................................................................. 63
3.4.2 Instruments .................................................................................................................. 63
  3.4.2.1 Measurement of word recognition from speech .................................................. 63
  3.4.2.2 Word recognition test scoring procedures .......................................................... 65
  3.4.2.3 Measurement of listening comprehension ......................................................... 65
  3.4.2.4 Lexical content of the listening comprehension test ......................................... 66
3.4.3 Procedure ..................................................................................................................... 67
3.5 Results ............................................................................................................................... 67
  3.5.1 Research question one ............................................................................................. 68
  3.5.2 Research question two ............................................................................................. 69
  3.5.3 Research question three ......................................................................................... 71
3.6 Discussion ......................................................................................................................... 72
  3.6.1 Limitations and recommendations for future research .......................................... 73
3.7 Conclusion ......................................................................................................................... 75
Summary ................................................................................................................................. 76

Chapter 4 .................................................................................................................................. 77
Preamble to research paper 2: “Investigating an innovative computer application to improve L2 word recognition from speech” .................................................................................... 77
  4.1 Introduction .................................................................................................................... 78
  4.2 Background .................................................................................................................... 80
    4.2.1 A psycholinguistic rationale for complementary approaches to L2 listening pedagogy .................................................................................................................................. 80
    4.2.2 Recommendations for the development of word recognition from L2 speech .................................................................................................................... 81
    4.2.3 Investigating word recognition development and learner engagement with a computer application aimed at developing L2 word recognition from speech ................................................... 83
  4.3 Methodology .................................................................................................................... 84
    4.3.1 Participants .............................................................................................................. 84
    4.3.2 Materials for the computer application ................................................................... 85
    4.3.3 Description of the computer application ................................................................. 86
    4.3.4 Word list .................................................................................................................. 88
    4.3.5 Pre-tests and post-tests ........................................................................................... 89
Chapter 4

4.3.5.1 Partial dictation tests ................................................................. 89
4.3.5.2 Paused dictation tests ............................................................... 90
4.3.5.3 Dictation tests ........................................................................... 90
4.3.6 Attitudinal survey ........................................................................ 91
4.3.7 Procedure .................................................................................... 91
4.3.8 Data analysis ................................................................................ 91
  4.3.8.1 Self-determined exposure to speech input ............................... 91
  4.3.8.2 Modified output productivity ................................................. 92
  4.3.8.3 Learning protocol word recognition score .............................. 92
4.4 Results ............................................................................................ 93
  4.4.1 Mean self-determined exposure to input .................................... 94
  4.4.2 Mean modified output productivity .......................................... 94
  4.4.3 Mean learning protocol word recognition score ....................... 95
  4.4.4 Attitudinal survey results .......................................................... 96
4.5 Discussion and Conclusion .............................................................. 98
Summary ............................................................................................... 100

Chapter 5 .............................................................................................. 101
Preamble to research paper 3: “Computer-mediated input, output and feedback in the
development of L2 word recognition from speech” ....................................... 101
  5.1 Introduction .................................................................................. 103
    5.1.1 The role of input, output and feedback in developing word recognition from
          speech .......................................................................................... 103
    5.1.2 CALL for the development of L2 word recognition from speech ...... 105
  5.2 Research questions .......................................................................... 106
  5.3 Methodology .................................................................................. 106
    5.3.1 Participants ............................................................................. 106
    5.3.2 Materials for the computer application .................................... 106
    5.3.3 Overview of the application .................................................... 107
  5.4 Test instruments ............................................................................. 111
    5.4.1 Receptive vocabulary knowledge test ...................................... 111
    5.4.2 Word recognition tests ............................................................. 111
      5.4.2.1 Test structure and specifications ......................................... 111
Chapter 6 ................................................................................................................................. 123
Preamble to research paper 4: “The impact of proficiency level on interaction, task success and word learning: design implications for CALL to develop L2 word recognition from speech” .................................................................................................................. 123

6.1 Introduction .................................................................................................................. 125

6.2 Literature review ......................................................................................................... 127

6.2.1 The design of CALL for the development of L2 WRS ........................................ 127
6.2.2 A focus on the learner in the design of CALL for listening development...... 129

6.3 Research questions ...................................................................................................... 132

6.4 Methodology ................................................................................................................ 133

6.4.1 Participants ............................................................................................................. 133
6.4.2 Overview of the web application ........................................................................... 133
6.4.3 Assessment of L2 word recognition from speech and word learning outcomes ................................................................. 135

6.4.3.1 Test structure .................................................................................................. 135
6.4.3.2 Test validation ................................................................................................. 136
6.4.3.3 Test scoring ................................................................................................... 137
6.4.3.4 Test reliability ............................................................................................... 137

6.5 Procedures ...................................................................................................................... 138

6.5.1 Quantifying task interaction, task success and word learning outcomes... 138
Chapter 7: Discussions and recommendations for future research .......... 155

7.1 Overview ................................................................. 155

7.2 Summary of findings and implications for practice and future research .... 155

7.2.1 The importance of the construct of WRS in L2 listening comprehension... 155

7.2.1.1 Key findings .......................................................... 155

7.2.1.2 Implications for practice........................................... 157

7.2.1.3 Limitations and implications for future research ....................... 158

7.2.2 The utility of computer assisted language learning (CALL) for the
development of L2 WRS ................................................................ 160

7.2.2.1 Key findings .......................................................... 160

7.2.2.2 Implications for practice........................................... 161

7.2.2.3 Limitations and implications for future research ....................... 162

7.2.3 The contribution to the body of knowledge which can be used to inform
future computer-mediated approaches to develop L2 WRS ..................... 164

7.2.3.1 Key findings .......................................................... 164

7.2.3.2 Implications for practice........................................... 164

7.2.3.3 Limitations and implications for future research ....................... 165

7.3 Concluding remarks ................................................................ 166
Reference list......................................................................................................................... 167

Appendices............................................................................................................................. 185
List of tables

Table 1.1 Relationship between the primary research questions, chapters, research paper titles, and individual research questions for each research paper ............................................6-7
Table 3.1: Overview of lexical content of listening comprehension test ..................67
Table 3.2: Descriptive statistics and internal consistencies of tests..............................67
Table 3.3: Descriptive statistics for the subsections of the word recognition test ........68
Table 3.4: Correlations between listening comprehension tests scores and WRS test scores for the three levels of word frequency and total WRS scores............................68
Table 3.5: Step-wise multiple regression including 3K and 1K WRS scores (2K WRS scores excluded) ......................................................................................................................70
Table 3.6: Step-wise multiple regression including 2K and 1K WRS scores (3K WRS scores excluded manually) .................................................................................................................................70
Table 3.7: 1K, 2K and 3K WRS scores for modest, competent and good listeners ....71
Table 4.1: General description of the five monologues used in the learning protocol ...86
Table 4.2: Description of attributes of dictation tests ..................................................90
Table 4.3: Summary of three constructs of engagement for each monologue ..........94
Table 4.4: Summary of results for dictation pre-test .................................................96
Table 4.5: Summary of engagement by low and high groups across all monologues ....96
Table 4.6: Summary of attitudinal survey results ......................................................97
Table 5.1: Summary of internal consistency measures for pre-test and post-tests ......113
Table 5.2: Mean WRS gain scores for participants who used the application and those who did not..................................................................................................................115
Table 5.3: Mean WRS gain scores for treatment one, treatment two and control group ..............................................................................................................................116
Table 5.4: Mean WRS gain scores for low, moderate and high exposure to input categories......................................................................................................................117
Table 5.5: Mean WRS gain scores for low, moderate and high modified output categories......................................................................................................................118
Table 6.1: An overview of monologue word length, speech rate and lexical frequency .................................................................................................................................134
Table 6.2: Pre-test mean L2 WRS scores for the total, high frequency and academic words. ....................................................................................................................................140
Table 6.3: Mean scores for total, high frequency and academic words for participants from low, moderate and high L2 WRS proficiency levels.................................................. 141
Table 6.4: Comparison of two task interaction variables for three L2 WRS proficiency levels ........................................................................................................................................... 142
Table 6.5: Comparison of two variables of task success for three L2 WRS proficiency levels ........................................................................................................................................... 144
Table 6.6: Comparison of total, high frequency and academic L2 WRS gain scores for three WRS proficiency levels.................................................................................................................. 146
List of figures

Figure 2.1: Schematic diagram of literature review ............................................................... 9
Figure 2.2: Waveform of the sentence: “India is the second most populated country in
the world” .......................................................................................................................... 16
Figure 4.1: Screen shot of phase two of the learning protocol ........................................ 88
Figure 4.2: Screen shot of phase three of the learning protocol ....................................... 88
Figure 5.1 Opportunities to increase exposure to input and to produce modified output
........................................................................................................................................ 108
Figure 5.2 Opportunities to increase exposure to input and to produce modified output
........................................................................................................................................ 109
Figure 5.3 Example of feedback mode of treatment level 1 participants (text feedback
provided) ........................................................................................................................... 110
Figure 5.4 Example of feedback mode of treatment level 2 participants (no text
feedback provided) ........................................................................................................ 110

List of Abbreviations

ANOVA Analysis of variance
CALL Computer-assisted language learning
ESL English as a second Language
HSD Honest significant difference
L1 First language
L2 Second language
LSD Least significant difference
M Mean
N Number of participants
p Probability (statistical significance level)
r Pearson product-moment correlation coefficient
SD Standard deviation
SLA Second language acquisition
TRC Text reconstruction and comparison
WRS Word recognition from speech
Abstract

Second language (L2) listening is an essential component of L2 proficiency. The most critical aspect of L2 listening is the ability to recognise words from speech. Despite L2 word recognition from speech (WRS) being fundamentally important to successful L2 listening, it has been systemically underemphasised in L2 language learning research. As a consequence of this lack of research emphasis, very little empirical data exists regarding how L2 WRS can be developed in real language learning contexts. This thesis presents four contextualised research papers which aim to begin filling this gap in the existing literature. These papers in their entirety aim to address three primary research objectives:

1) To quantify the importance of the construct of WRS in L2 listening comprehension.
2) To examine the utility of computer assisted language learning (CALL) for the development of L2 WRS
3) To contribute to the body of knowledge which can be used to inform future computer-mediated approaches to develop L2 WRS.

Firstly, findings show L2 WRS is strongly associated with second language listening comprehension. The link between word recognition skill and L2 listening performance provides a strong rationale for research which investigates approaches to develop L2 WRS. Secondly, findings show that CALL does have utility in the development of L2 WRS in real language learning contexts. Two separate investigations which show the effectiveness of a web-based CALL application specifically designed to assist L2 learners to develop improved L2 WRS are presented. The CALL application which is described not only provides a model for CALL for the development of L2 WRS, but also provides a design framework from which future improved iterations can evolve. Lastly, in line with the research objective to improve future CALL approaches to develop L2 WRS, empirical data detailing learner use of the application developed and investigated as part of this thesis are analysed and presented. These empirical data are used as a framework for recommendations for future iterations of the L2 WRS application which may more adequately cater to learners’ individual differences.