Second Language Learning and Teaching

Ewa Waniek-Klimczak
Mirosław Pawlak *Editors*

Teaching and Researching the Pronunciation of English

Studies in Honour of Włodzimierz Sobkowiak

Springer

Second Language Learning and Teaching

Series editor

Mirosław Pawlak, Kalisz, Poland

About the Series

The series brings together volumes dealing with different aspects of learning and teaching second and foreign languages. The titles included are both monographs and edited collections focusing on a variety of topics ranging from the processes underlying second language acquisition, through various aspects of language learning in instructed and non-instructed settings, to different facets of the teaching process, including syllabus choice, materials design, classroom practices and evaluation. The publications reflect state-of-the-art developments in those areas, they adopt a wide range of theoretical perspectives and follow diverse research paradigms. The intended audience are all those who are interested in naturalistic and classroom second language acquisition, including researchers, methodologists, curriculum and materials designers, teachers and undergraduate and graduate students undertaking empirical investigations of how second languages are learnt and taught.

More information about this series at http://www.springer.com/series/10129

Ewa Waniek-Klimczak · Mirosław Pawlak
Editors

Teaching and Researching the Pronunciation of English

Studies in Honour of Włodzimierz Sobkowiak

Springer

Editors
Ewa Waniek-Klimczak
Institute of English Studies
University of Łódź
Łódź, Łódzkie
Poland

Mirosław Pawlak
Department of English Studies
Adam Mickiewicz University
Kalisz, Wielkopolskie
Poland

ISSN 2193-7648 ISSN 2193-7656 (electronic)
ISBN 978-3-319-11091-2 ISBN 978-3-319-11092-9 (eBook)
DOI 10.1007/978-3-319-11092-9

Library of Congress Control Number: 2014951540

Springer Cham Heidelberg New York Dordrecht London

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

The pronunciation of English keeps attracting the attention of researchers, teachers and learners alike. Surprisingly perhaps, the somewhat radical proposal that a native-speaker model should be abandoned as the goal for learners of English seems to have provoked more studies of pronunciation learning and teaching than ever before, with the field of applied phonetics expanding and incorporating new approaches and research perspectives. The studies included in this volume bear witness to the growth of the field, reflecting its major dual interest in, on the one hand, researching and, on the other, teaching second and foreign pronunciation. In fact, this division is far from straightforward and neither are the two processes mutually exclusive, as it is much rather a matter of focus than methods or aims of the study that make a particular contribution more research- or teaching-oriented. This combination of theory and practice, with the requirement for a sound scientific background as a prerequisite for practical solutions, follows from the work of Professor Włodzimierz Sobkowiak, whose inspiration for the community of English pronunciation researchers and teachers in Poland and abroad is gratefully acknowledged by the editors and contributors to the volume, many of whom decided to pay tribute to Professor Sobkowiak by continuing (or challenging) his line of research. Although, over the years, Professor Sobkowiak's interests have shifted from general English phonetics to other areas, including phonetics in dictionaries and online communication (see http://ifa.amu.edu.pl/~swlodek for publications and other important facts), the landmark publication *English Phonetics for Poles* (1996) remains one of the most influential texts that he has authored.

It is therefore only fitting that the present volume should be divided into two major parts, namely *Teaching the Pronunciation of English* and *Researching the Pronunciation of English*, which, however, should be seen as complementing and permeating each other. This is because, since most of the contributors are past or present teachers of practical English phonetics, not only the part of the book devoted to pronunciation instruction but also this dealing with researching different aspects of teaching and learning pronunciation contains references to the instructed learning context. As regards the part *Teaching the Pronunciation of English*, it brings together seven papers touching upon various facets of pronunciation

instruction, ranging from learners' beliefs, through factors affecting this process, to different types of educational resources. Setting the scene, the first two papers report the results of questionnaire studies carried out among English majors in Poland, with Pawlak, Mystkowska-Wiertelak and Bielak concentrating on students' beliefs about pronunciation instruction in relation to language attainment, and Waniek-Klimczak, Rojczyk and Porzuczek focusing on the effect of gender and level of study on the attitude towards pronunciation. The next two papers move closer towards the process of pronunciation teaching itself, describing and researching the results of using new technologies in teaching pronunciation, with Baran-Łucarz, Czajka and Cardoso examining the effectiveness of and the attitudes towards teaching L2 English phonetics with 'clickers', and Cunningham reporting the process of online pronunciation teaching to teachers. While all of the above contributions concentrate on advanced learners, future or present teachers of English expressing beliefs and working on their own pronunciation, the remaining three papers in this section talk about resources available to learners (Nowacka) and teachers (Tergujeff and Furtak). However, the focus is different. In her account of textbooks, CDs and CD-ROMs, Nowacka overviews materials for learners at different levels of English proficiency and with different needs, whereas Tergujeff looks at the role of textbooks in a specific setting of Finnish lower secondary school. A situation-bound account is also offered by Furtak, who explores the potential use of a modified transcription system for Polish learners.

The second part of the book, *Researching the Pronunciation of English*, brings together contributions discussing different aspects of pronunciation, from priorities in phonetics instruction, through the study of errors, to the suggestions as to the sources of difficulty, and ideas as to the ways of tackling them. As already mentioned, the difference between the papers in this section and the previous one is a matter of focus rather than main interest, with all contributions referring to research with practical implications for pronunciation teaching. The first two papers offer a good example of this type of research, as they take up a crucial theme of the aims for pronunciation teaching, looking for ways to specify priorities for L2 phonetics, with Scheuer concentrating on the criteria of accentedness, intelligibility and teachability, and Zając exploring frequency. The notion of an error, crucial in the above studies, is further developed by Porzuczek, who looks at local and global errors on the basis of the most-often cited fragment of Sobkowiak's *English Phonetics for Poles*—the list of words commonly mispronounced. It is a sub-section of these words that is further explored by Waniek-Klimczak, who discusses the perception of an error as a possible indicator of advancement. A contrastive approach to vowels, proposed by Schwartz, aims at specifying areas of difficulty for Polish learners; a broader perspective is taken by Shockey, who points to the importance of larynx in the study of a foreign accent. Continuing the topic of a foreign accent, Rojczyk reports the results of an imitation study which shows that a selected feature of L2 can be transferred into accented L1 in advanced learners; and, finally, Dziubalska-Kołaczyk, Balas, Schwartz, Rojczyk and Wrembel argue that pronunciation can be taught more effectively through enhanced suppression of native language processes in imitation. With the final paper aiming to provide a yet

different perspective on successful teaching of pronunciation, the links before theory and practice are stressed yet again.

The editors are convinced that the papers included in the present volume will serve as an inspiration for further research into pronunciation learning and teaching, particularly such that would provide concrete pedagogical implications. Although there are voices that pronunciation teaching should no longer be the priority of foreign language education, mainly because the main focus at present should be on teaching English for international communication, this is surely not the case for the majority of philology students and even when intelligibility is the main goal, good pronunciation instruction can ensure that learners do in fact speak in a way that is understandable to their interlocutors.

Ewa Waniek-Klimczak
Mirosław Pawlak

Contents

Part II Researching the Pronunciation of English

Notes on Contributors

Anna Balas, Ph.D., is an Assistant Professor at the Faculty of English at Adam Mickiewicz University. She publishes on phonetics and phonology in second-language acquisition. She received a DAAD scholarship in 2004–2005 (University of Bielefeld). She is a member of the editorial team of *Poznań Studies in Contemporary Linguistics*.
e-mail: abalas@wa.amu.edu.pl

Małgorzata Baran-Łucarz received her Ph.D. degree in Applied Linguistics in 2004 with a thesis entitled 'Field independence as a predictor of success in foreign language pronunciation acquisition and learning'. She is an assistant professor at the University of Wrocław and in the years 1998−2013 has been a teacher at the Teacher Training College in Wrocław. Her main areas of interest are: methodology of FL teaching, SLA (particularly the matter of individual learner differences and FL pronunciation acquisition), psycholinguistics, phonetics and pronunciation pedagogy.
e-mail: mbaran-lucarz@ifa.uni.wroc.pl

Jakub Bielak obtained his Ph.D. in Linguistics from the School of English of Adam Mickiewicz University, Poznań, Poland. He teaches at the Department of English Studies of the Faculty of Pedagogy and Fine Arts (Kalisz, Poland) of the same university and at the Department of Modern Languages of Konin State School of Higher Professional Education, Poland. His interests include form-focused instruction, individual learner differences and applications of cognitive linguistics to language teaching. He has authored and co-authored one book and several articles in edited volumes and journals and co-edited two books.
e-mail: kubabogu@amu.edu.pl

Walcir Cardoso is an Associate Professor of Applied Linguistics at Concordia University (Montreal, Canada). He conducts research on the second language acquisition of phonology, morphosyntax and vocabulary, and the effects of computer technology (e.g., clickers, text-to-speech synthesizers, automatic speech recognition) on L2 learning.
e-mail: walcir@education.concordia.ca

Una Cunningham grew up in Northern Ireland, studied at the University of Nottingham and came to the University of Canterbury in New Zealand at the beginning of 2013 after some 30 years in Sweden. She has taught and carried out research in schools and universities in Sweden with a focus on learner pronunciation with English, Swedish and Spanish as target languages. Her recent work has been developing e-learning in teacher education and she is currently a member of the University of Canterbury E-learning Research Lab. She will coordinate a new international online taught Master of Computer-Assisted Language Learning programme at the University of Canterbury starting in 2015.
e-mail: una.cunningham@canterbury.ac.nz

Ewa Czajka is a Ph.D. candidate at the University of Wrocław, Poland. She is an English teacher and teacher trainer. Her research interests include foreign language pedagogy, with special attention to foreign language pronunciation instruction. Currently, she is working on her doctoral dissertation on pronunciation perception and production training at upper secondary school level of education.
e-mail: czajka.ew@gmail.com

Katarzyna Dziubalska-Kołaczyk is full Professor and dean of the Faculty of English at Adam Mickiewicz University, Poznań, Poland. She is also head of the Interdisciplinary Centre for Speech and Language Processing at AMU. She has published extensively on phonology, phonetics and second language acquisition. In her works she has been pursuing and advocating the Natural Linguistic approach to language. Her books include *A Theory of Second Language Acquisition within the framework of Natural Phonology* and *Beats-and-Binding Phonology*. Her recent research focuses on phonotactics and morphonotactics. She is the editor of *Poznań Studies in Contemporary Linguistics* published by de Gruyter Mouton and organizer of *Poznań Linguistic Meetings* (PLM). She received a Senior Fulbright scholarship in 2001–2002 (University of Hawaii at Manoa) and was visiting scholar at the University of Vienna (1991–1994, 1998). She is a member of Academia Europaea and Agder Academy as well as the Linguistic Committee of the Polish Academy of Sciences and nearly 20 professional organizations. She is a member of the Scientific Advisory Board of the Faculty of Philological and Cultural Studies at the University of Vienna, 2012–2016. 2011–2014 she was a member of Rada Narodowego Programu Rozwoju Humanistyki (NPRH, National Program for the Humanities). In 2013–2014 she is the President of Societas Linguistica Europaea.
e-mail: dkasia@wa.amu.edu.pl

Dr. Łukasz Furtak is currently employed at the State Higher Vocational School in Sandomierz, where he teaches phonetics, vocabulary and business translation, as well as at Bingo English School (Sandomierz), where he teaches English to students at all levels in all the age-groups and performs the duties of an academic coordinator. Prior to completing his Ph.D. at the Catholic University of Lublin, Dr. Furtak also worked at the Tarnobrzeg and Sandomierz Teacher Training

Colleges, the Catholic University of Lublin and supervised an EU-funded English language training. His research interests focus on experimental phonetics, contact linguistics phenomena in which Polish directly interacts with English, and the didactics of teaching practical phonetics to students at all levels of English. During his stay in the USA., Dr. Łukasz Furtak worked at the Law Offices of William Karnezis in Chicago as a bilingual paralegal assistant.
e-mail: furtakl@o2.pl

Anna Mystkowska-Wiertelak received her doctoral degree in Applied Linguistics from Adam Mickiewicz University in Poznań, Poland. She is a teacher and a teacher educator working at the English Department of the Faculty of Pedagogy and Fine Arts of Adam Mickiewicz University in Kalisz as well as the Department of Modern Languages of the State School of Higher Professional Education in Konin, Poland. Her main interests comprise, apart from teacher education, second-language acquisition theory and research, language learning strategies, learner autonomy, form-focused instruction and motivation.
e-mail: mystkows@amu.edu.pl

Marta Nowacka teaches Descriptive Grammar and English Phonetics at the University of Rzeszów. Her doctoral research has focused on phonetic attainment of Polish students of English. She is a co-author of two English pronunciation practice books. Her main interests in applied linguistics are in foreign-accented speech and teaching phonetics to foreigners.
e-mail: martha.nowacka@gmail.com

Mirosław Pawlak is Professor of English in the Department of English Studies at the Faculty of Pedagogy and Fine Arts of Adam Mickiewicz University in Kalisz, Poland and the Institute of Modern Languages of State School of Higher Professional Education, Konin, Poland. His main areas of interest are SLA theory and research, form-focused instruction, corrective feedback, classroom discourse, learner autonomy, communication and learning strategies, individual learner differences and pronunciation teaching. His recent publications include *The place of form-focused instruction in the foreign language classroom* (Adam Mickiewicz University Press, 2006), *Production-oriented and comprehension-based grammar teaching in the foreign language classroom* (with Anna Mystkowska-Wiertelak, Springer, 2012), *Error correction in the foreign language classroom: Reconsidering the issues* (Adam Mickiewicz University Press, 2012), *Applying Cognitive Grammar in the foreign language classroom: Teaching English tense and aspect* (with Jakub Bielak, Springer, 2013), as well as several edited collections on learner autonomy, form-focused instruction, speaking and individual learner differences. Mirosław Pawlak is the editor-in-chief of the journal *Studies in Second Language Learning and Teaching* (www.ssllt.amu.edu.pl) and the book series *Second Language Learning and Teaching* (http://www.springer.com/series/10129). He has been a supervisor and reviewer of doctoral and postdoctoral dissertations.
email: pawlakmi@amu.edu.pl

Andrzej Porzuczek is an Assistant Professor at University of Silesia, Institute of English. His Ph.D. dissertation, accomplished in 1998, dealt with Polish learners' perception of standard British English vowels. His research areas comprise foreign language acquisition, interlanguage phonology and practical phonetics pedagogy. His recent publications include an English pronunciation coursebook for Polish learners, a monograph on the temporal characteristics of Polish learner's read English speech and several articles devoted to prosodic timing in Polish-accented English pronunciation and teaching practical English phonetics to Polish learners. He has also presented papers at numerous international conferences on phonetics, phonology and foreign language acquisition.
e-mail: andrzej.porzuczek@us.edu.pl

Arkadiusz Rojczyk is an Assistant Professor at the Institute of English, University of Silesia in Poland. His research concentrates on production and perception in second-language speech, speech analysis and resynthesis. He is currently working on spectral and temporal parameters in the realisation of Sandhi processes in English and Polish.
e-mail: arkadiusz.rojczyk@us.edu.pl

Sylwia Scheuer is senior lecturer in phonetics and phonology at the Department of English, University of Paris 3-Sorbonne Nouvelle. She got her Ph.D.—under the supervision of Prof. Włodzimierz Sobkowiak—from the School of English, Adam Mickiewicz University in Poznań, where she worked as Assistant Professor until 2005. She was also a visiting lecturer in the Department of Linguistics, University of Vienna, from 1998−2001. Her teaching experience and research has focused on second-language acquisition, phonetics and phonology, general linguistics, sociolinguistics, and English as an International Language.
e-mail: sylwia_scheuer@yahoo.fr

Geoffrey Schwartz is an Associate Professor in the Faculty of English at Adam Mickiewicz University (UAM) in Poznań. He received his Ph.D. in Slavic Linguistics from the University of Washington (Seattle) in 2000. He has been employed at UAM since 2002, where his teaching has concentrated on acoustic phonetics and L2 speech acquisition, and was awarded a post-doctoral degree (Polish *habilitacja*) in 2010. In recent years he has been working in phonological theory, developing the Onset Prominence representational framework, and continuing his work on L2 phonological acquisition. His articles have appeared in numerous journals, including *Journal of Linguistics*, and he is a regular participant at important phonology and L2 acquisition conferences.
e-mail: geoff@wa.amu.edu.pl

Linda Shockey has taught and researched in phonetics both in the USA and the UK for over 40 years, specialising in exploring the interaction of phonetics and phonology. She is the author of *Sound Patterns of Spoken English* (2003) and is currently at the University of Reading.
e-mail: L.Shockey@reading.ac.uk

Elina Tergujeff completed her Ph.D. in Applied Linguistics in the University of Jyväskylä in 2013. Her mixed-methods dissertation mapped English pronunciation teaching practices in Finland. Tergujeff represents Finland in the English Pronunciation Teaching in Europe Survey (EPTiES) research collaboration. She currently works as project coordinator of the University of Jyväskylä Language Campus, and is a popular invited speaker at in-service training events for teachers.
e-mail: elina.tergujeff@jyu.fi

Ewa Waniek-Klimczak is Professor of English Linguistics and head of the Department of English Language and Applied Linguistics at the University of Łódź. Her main areas of interest are second language phonetics and phonology, sociolinguistics and pronunciation teaching and she has organised and co-organised (with Professor Włodzimierz Sobkowiak) numerous conferences on pronunciation teaching, with an annual conference on native and non-native Accents of English held every December in Łódź (filolog.uni.lodz.pl/accents). She has edited and co-edited collections of papers on applied phonetics, with the most recent publication co-edited with Linda Shockey on *Teaching and researching English accents in native and non-native speakers* (2013, Berlin Heidelberg: Springer Verlag). Her main previous publications include the book on *Temporal parameters in second language speech: An applied linguistic phonetics approach.* (2005, Łódź: Wydawnictwo Uniwersytetu Łódzkiego) and *Issues in Accents of English I and II* (2008 and 2010, Cambridge Scholar Publishing). She is an editor-in-chief of *Research in Language*, an international journal published by the University of Łódź.
e-mail: ewaklim@uni.lodz.pl

Magdalena Wrembel, Ph.D., is an Assistant Professor at the Faculty of English UAM. She specialises in second-language acquisition of speech, acquisition of third language phonology, language awareness and innovative approaches to pronunciation teaching and learning. She has published in edited collections and international journals.
e-mail: magdala@wa.amu.edu.pl

Magdalena Zając is a doctoral student at the Institute of English Studies, University of Lodz, Poland, where she teaches phonetics and phonology courses at the undergraduate level. Her research interest include English phonetics and phonology, second language acquisition, L2 pronunciation and sociolinguistics. Her most current research focuses on phonetic imitation and speech accommodation in the pronunciation of Polish learners of English.
e-mail: zajac1234@gmail.com

Part I
Teaching the Pronunciation of English

Exploring Advanced Learners' Beliefs About Pronunciation Instruction and Their Relationship with Attainment

Mirosław Pawlak, Anna Mystkowska-Wiertelak and Jakub Bielak

Abstract It has long been recognized that learners' beliefs about different aspects of foreign language learning and teaching are bound to impinge on the effectiveness of these processes, and pronunciation is by no means an exception. The present paper reports the results of a study which aimed to offer insights into such beliefs and determine the relationship between perceptions of different aspects of pronunciation instruction and attainment, both with reference to speaking skills in general and this target language subsystem. The data were collected from 110 second- and third-year students of English philology enrolled in a 3-year BA program. The participants' beliefs were tapped by means of a specifically designed questionnaire containing Likert-scale items, intended to provide information about the overall importance of pronunciation instruction, the type of syllabus, the design of classes devoted to pronunciation, the introduction of pronunciation features, the ways of practicing these features, and the role of error correction in this area. Open-ended questions were also included to determine the reasons why the participants liked or disliked learning pronunciation as well as the instructional practices towards which they held positive and negative attitudes. The information about attainment came from the spoken component of the end-of-the-year practical English examination.

M. Pawlak (✉) · A. Mystkowska-Wiertelak · J. Bielak
Adam Mickiewicz University, Kalisz, Poland
e-mail: pawlakmi@amu.edu.pl

A. Mystkowska-Wiertelak
e-mail: mystkows@amu.edu.pl

J. Bielak
e-mail: kubabogu@amu.edu.pl

M. Pawlak · A. Mystkowska-Wiertelak · J. Bielak
State University of Applied Sciences, Konin, Poland

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_1

1 Introduction

There is little doubt that the beliefs that learners hold about the process of foreign language learning and teaching are of paramount importance for the simple reason that, if we agree with Allwright and Bailey (1991) that language lessons or even entire courses are to a large extent co-constructed by teachers and their students, they are bound to affect what happens in the language classroom and also impinge on the effectiveness of the whole process of language instruction. In other words, somewhat contrary to widespread assumptions, it is not only the preferences manifested by teachers and the decisions that are informed by such preferences with respect to, for example, the content and sequencing of the syllabus, the choice of pedagogic activities or the overall approach to classroom proceedings, but also students' experiences and expectations which shape their beliefs concerning different aspects of foreign language pedagogy that determine the nature of classroom interaction and the outcomes of what transpires in language lessons. Therefore, it should come as no surprise that learners' beliefs are considered to be a crucial individual difference variable (e.g., Dörnyei, 2005; Ellis, 2008; Kalaja & Barcelos, 2003, 2012) and they have become the focus of empirical investigation. The studies conducted thus far have demonstrated, among other things, that beliefs can help us explain and predict learners' behaviors in the classroom (Grotjahn, 1991), they are related to the use of strategies, motivation, the level of proficiency, foreign language anxiety and the adoption of an autonomous approach to language learning (cf. Kalaja & Barcelos, 2003; Mori, 1999; Yang, 1999), they can differ depending on the language studied, and can be both beneficial and detrimental (Ariogul et al., 2009), they can exert an influence on teachers' classroom practices (e.g., Borg, 2003, 2008; Burgess & Etherington, 2002), they can get in the way of the process of learning if they are unrealistic (Sawir, 2002), and they can be modified to some extent through training (Mantley-Bromley, 1995). While many of these claims have been made about learners' beliefs in general, with the relevant data being collected with the help of Horwitz's (1987) *Beliefs About Language Learning Inventory* (BAALI), they apply in equal measure to the beliefs that learners display concerning different skills and language subsystems, and pronunciation is clearly no exception. In line with this assumption, the present paper reports the findings of a study which aimed to determine English majors' beliefs about various facets of pronunciation instruction and to examine the relationship between such perceptions and success in mastering this foreign language subsystem, operationalized in terms of the scores on the oral part of the end-of-the-year examination in practical English and the pronunciation component of this score. In the first part, an attempt will be made to offer a brief overview of the available research dealing with learners' and teachers' beliefs in this area, which will be followed by the description of the research questions, the procedures for data collection and analysis, as well as the presentation and discussion of the findings. The paper will close with a handful of recommendations concerning the directions and methodology of future research on beliefs about pronunciation learning and teaching.

2 Previous Research on Beliefs About Pronunciation Learning and Teaching

As has been shown for the Polish context by, for example, Szpyra-Kozłowska (2008) and Pawlak (2010), there have been many foci of research into the teaching and learning of foreign language pronunciation, the most important of which include the status of pronunciation teaching at different levels of instruction (e.g., Baran-Łucarz, 2006), instructional targets, both when it comes to choosing the model to be taught (e.g., Sobkowiak, 2005) and the pronunciation features to be prioritized (e.g., Waniek-Klimczak, 2002), the main pronunciation-related difficulties experienced by different groups of learners (e.g., Nowacka, 2006), the effectiveness of different instructional techniques (e.g., Szpyra-Kozłowska & Stasiak, 2006), the utility of various teaching resources (e.g., Wrembel, 2005), the role of corrective feedback (e.g., Pawlak, 2004, 2013a), the use of evaluation procedures (e.g., Szpyra-Kozłowska et al., 2004), individual learner differences with respect to pronunciation instruction (Baran-Łucarz, 2012; Szyszka, 2011), learner autonomy in learning pronunciation features (e.g., Pawlak, 2006; Szyszka, 2006), or the use of pronunciation learning strategies (e.g., Pawlak, 2008). However, there has been surprisingly few empirical investigations that would have attempted to tap learners' or teachers' beliefs and preferences concerning pronunciation teaching, which must come as a surprise, given the importance of this field spelled out in the introduction to the present paper. In particular, somewhat in contrast to grammar teaching (e.g., Burgess & Etherington, 2002; Loewen et al., 2009; Pawlak, 2013b; Spada et al., 2009), very little emphasis has been placed, for example, on specific aspects of pronunciation instruction, such as the choice of the syllabus, the design of pronunciation-based lessons, the contribution of different categories of instructional techniques and procedures, or the role of various types of corrective feedback.

In fact, the few available studies in this area have pursued very disparate goals and focused, in the main, on teachers' awareness of the importance of pronunciation and the ways in which it can successfully be taught, learners' preferences concerning the pronunciation model to be taught and, to a much lesser degree, the use of particular instructional practices. Breitkreutz et al. (2001), for example, found that teachers of English in Canada were aware of the principles of pronunciation teaching, which found reflection in their classroom practices, and they believed that the role of suprasegmetal features for successful communication was greater than that of segmental features, but concluded that more training was needed in this area. A follow-up study conducted in the same educational context by Foote et al. (2011) produced similar findings and the researchers hypothesized that limited teacher awareness was the corollary of the fact that courses dealing with pronunciation instruction were not easily accessible during university education. In a recent development of this line of inquiry, Thompson (2012) investigated the beliefs and practices of 58 teachers of English from Canada and the United States, looking at such issues as the nature of a foreign accent (e.g., the impact of first language transfer), general instructional strategies (e.g., recording one's voice to allow monitoring how sounds are produced),

descriptions of English sounds (i.e., awareness of differences between particular segments) and specific teaching techniques (e.g., the role of reading aloud). The main finding was that the participants lack a coherent understanding of the issues included in the survey and many of them do not have the ability to critically evaluate their beliefs and practices, although, truth be told, the tool itself was flawed as the distinction between general instructional strategies and specific techniques does not seem to have been properly operationalized. An interesting study was also undertaken by Baker (2011), who explored the relationship between the cognitions (i.e., knowledge and beliefs) of five experienced teachers of English as a second language and their classroom practices with respect to pronunciation instruction, offering evidence that their knowledge, pedagogical choices and confidence were affected by the amount of training they had received, teaching experience and collaborative work with their colleagues. Finally, Wahid and Sulong (2013) found that the way in which teachers at a tertiary level approached pronunciation in their classroom was often at odds with current research findings, a result that was ascribed to lacking technical knowledge in pronunciation content and ignorance of the outcomes of empirical investigations in this area.

When it comes to learners' beliefs about teaching and learning pronunciation, several studies of this kind have been conducted in the Polish context. Krzyżyński (1988), for example, reported that English majors were of the opinion that pronunciation was less important for attainment of proficiency in a foreign language than grammar or lexis, thus being critical of the importance accorded to accurate pronunciation in Polish schools. Very similar conclusions were reached by Sobkowiak (2002), since the university-level participants of his study also felt that pronunciation is less important than the other foreign language subsystems, many of them admitting, at the same time, that they practiced pronunciation regularly and wishing that they were given more opportunities for such practice by the institution they attended, views that are perhaps reflective of the fact that they were majoring in English as well as the requirements for successful completion of the program. Positive attitudes towards pronunciation were also reported by Waniek-Klimczak (1997) in a different group of English majors, but she also provided evidence for the tension between a desire to sound like a native speaker and the need to be fluent and confident when speaking the target language. Janicka et al. (2005), in turn, demonstrated that English majors display a marked preference for native models of English, British and American English being the varieties held in highest esteem. The same conclusion was also reached by Waniek-Klimczak, Rojczyk and Porzuczek (this volume) in their investigation of BA and MA students' attitudes towards Polish-accented speech, or *Polglish*, to use the term proposed by Sobkowiak (1996). In line with the results of studies conducted elsewhere in Europe (e.g., Smojver and Stanojewic, 2013), they found that the participants opted for the native-like model and held negative views about the presence of the Polish accent, with the caveat that such opinions were a function of the educational level (BA or MA) and gender. As for studies conducted outside Poland, worth mentioning at this point is the research project undertaken by Simon and Taverniers (2011), who examined advanced Dutch learners' beliefs about pronunciation teaching in

comparison to grammar and vocabulary, demonstrating, among other things, that pronunciation and grammar were different from vocabulary in terms of bringing about communications breakdowns and involving the use of learning strategies, but similar when it comes to learners' confidence in achieving native-like level proficiency and the utility of the instructional activities used in class.

3 The Study

3.1 Aims and Research Questions

In light of the fact that the available research on beliefs concerning pronunciation learning and teaching is rather scarce and limited in scope, the questionnaire study reported in the present paper aimed to contribute to this line of inquiry by investigating English majors' perceptions of different aspects of pronunciation instruction and tapping the relationship between these perceptions and attainment, both in the case of speaking performance and with reference to this target language subsystem. More specifically, it sought to address the following research questions:

1. What are the participants' beliefs concerning the overall value of pronunciation instruction, the choice of the syllabus, the design of classes devoted to pronunciation, the introduction of pronunciation features, the ways of practicing these features, and the role of error correction in this area?
2. What is the relationship between beliefs held in these areas and attainment on the final examination, both with respect to speaking in general and pronunciation in particular?
3. What are the reasons why the participants like or dislike learning pronunciation?
4. What instructional techniques are the most and the least favored by the participants?

3.2 Participants

The participants were 110 advanced Polish learners, 86 females and 24 males, in an institution of higher education, who were majoring in English and were enrolled in a 3-year BA program. Based on the information provided in the demographic section of the questionnaire (see Sect. 3.3 below), their average experience in learning English amounted to about 11 years, with the minimum of 5 and the maximum of 15 years. As is the norm in most programs of this kind, the participants had the opportunity to attend numerous English classes, with separate courses dealing with grammar, pronunciation, speaking, writing and integrated skills. When requested to self-evaluate

their ability in the target language on a scale of 1 (lowest) to 6 (highest), they provided the following ratings: overall mastery—4.04, grammar—3.75, vocabulary—4.17, pronunciation—4.09, reading—4.49, writing—3.98, listening—4.08, and speaking—3.92, which shows that they were rather confident of their ability to use various segmental and suprasegmental features. The students were convinced of the importance of correct pronunciation in learning English, as indicated by the rating of 4.08 on a scale of 1 (lowest) to 5 (highest). As regards attainment, the average grade in the pronunciation course was 3.80 on a scale of 1 to 5, while the score on the end-of-the-year exam in practical English was 64.18 % for the oral interview and 61.10 % for the pronunciation component of this interview.

3.3 Data Collection and Analysis

The data were collected by means of a specifically designed survey, which was fashioned on a tool for investigating beliefs about form-focused instruction (i.e., grammar teaching and error correction), designed by one of the present authors (Pawlak, 2012, 2013a, b), in accordance with the assumption that different aspects of pronunciation can be viewed as target language forms and thus the same categories can be applied. Therefore, in contrast to the instruments used in many of the studies overviewed above, the tool was much more specific in the sense that the statements it contained were intended to offer insights into various aspects of pronunciation teaching. On the one hand, these statements were reflective of the latest developments in theory and research into teaching language forms, mainly grammar (e.g., Larsen-Freeman, 2010; Loewen, 2011; Nassaji & Fotos, 2011), and modeled on questionanires dealing with learners' beliefs in this area (e.g., Loewen et al., 2009; Schulz, 2001; Spada et al., 2009). On the other, the necessary modifications were introduced so that the items included were reflective of pronunciation instruction, and the literature on pronunciation teaching and learning was consulted as well (e.g., Kelly, 2000). The questionnaire was worded in English and constructed in such a way that it provided factual (e.g., experience in learning English, self-assessment of overall proficiency as well as specific skills and subsystems, access to the target language outside school, final grade in the pronunciation course) and attitudinal (i.e., beliefs about overall importance of pronunciation in language learning and specific facets of instruction in this area) information. The core of the survey was constituted by 30 Likert-scale items, where the respondents were requested to indicate the extent of their agreement on a five-point scale (1—*strongly disagree,* 5—*strongly agree*) with respect to: (1) overall importance of pronunciation instruction (also in connection with different skills), (2) syllabus design (i.e., structural, where a list of features is determined in advance vs. task-based, where pedagogic intervention is mainly determined by learner need), (3) planning classes devoted to pronunciation teaching (i.e., isolated, where pronunciation features are practiced in separation from communication, vs. integrated, where they are

targeted in the course of conveying messages), (4) introduction of phonological forms (i.e., deduction vs. induction, the use of the mother tongue, metalanguage and demonstration), (5) ways of practicing pronunciation features (controlled vs. communicative practice, as well as such based on reception and production), and (6) the provision of corrective feedback on pronunciation errors (i.e., focus, timing, source, corrective technique). This was complemented by four open-ended questions which were more general and focused on the reasons why the respondents liked or disliked learning pronunciation as well as preferred and dispreferred ways of being taught this language subsystem. The tool was piloted with a comparable group of respondents, which allowed introducing changes to some of the items, and internal consistency reliability was determined by computing Cronbach's alpha, which stood at 0.77, a value that was satisfactory.[1]

The questionnaire was sent out to the participants electronically together with instructions that both Polish or English could be used in the case of the open-ended questions, with the completed copies being returned to the researchers by e-mail. A combination of quantitative and qualitative analytical procedures was employed to analyze the collected data. The former were mainly applied in the case of Likert-scale items and involved tabulating the averages and frequencies of the responses (i.e., 1, 2, 3, 4 and 5), collapsing them into three categories (i.e. *strongly agree/agree*, *undecided*, *strongly disagree/disagree*) and computing their percentages. In addition, in order to establish the relationships between beliefs and attainment, Pearson product-moment correlations were computed. When it comes to the latter, it was employed with responses to the open-ended questions and involved identification of recurring themes, although the frequency of occurrence of the most frequent of those themes was also tabulated.

3.4 Research Findings

Before taking a closer look at the results for the specific Likert-scale statements and the categories that they comprise, it should be noted that the participants were largely convinced of the importance of correct pronunciation in learning English, as evidenced by the rating of 4.08 on a scale of 1–5 in the demographic section of the questionnaire. When it comes to the students' perceptions of various aspects of pronunciation instruction, they are presented in Tables 1, 2, 3, 4, 5 and 6, each of which is related to one of the areas investigated in the present study (i.e., overall importance of pronunciation instruction, choice of the syllabus, format of pronunciation-based classes, introduction of pronunciation features, instructional options used to practice pronunciation features, and different ways of correcting pronunciation errors). In each

[1] It should be noted here that Cronbach's alpha was also calculated for the different subscales (i.e., the various aspects of pronunciation instruction mentioned above), and in this case the results were not always satisfactory (e.g., when it comes to items dealing with the introduction and practice of pronunciation features), which testifies to the need to further validate the tool.

Table 1 Beliefs manifested by the participants about overall importance of pronunciation instruction

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
1.	Knowing a lot about pronunciation helps my listening comprehension	80.9	17.3	1.8	4.11 (0.75)
2.	When I make pronunciation errors in speaking, I like my teacher to correct them	86.4	9.1	4.5	4.39 (0.83)
3.	I believe that my English will improve quickly if I learn and practice pronunciation	58.2	32.7	9.1	3.67 (0.90)
6.	I like learning English pronunciation	82.7	15.5	1.8	4.19 (0.76)
5.	Teachers should correct students when they make pronunciation errors in class	90	3.6	6.4	4.50 (0.87)
9.	Good learners of a second language usually know a lot about pronunciation	67.3	26.4	6.3	3.76 (0.82)
10.	Knowing pronunciation helps communication in a second language	86.4	4.5	9.1	4.19 (0.78)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

case, the percentages of responses to the Likert-scale items in the *agree* (A), *undecided* (U) and *disagree* (D) categories are supplied, together with the mean (M) and the value of standard deviation (SD) for each statement.

As can be seen from Table 1, containing statements reflective of the perceptions of the role of pronunciation in the process of foreign language learning, the majority of the participants were convinced that the knowledge of segmental and supra-segmental pronunciation features and the ability to use them correctly is highly beneficial. This is evident from the fact that for as many as 5 out of 7 items in this category there was over 80 % agreement as to the important role of pronunciation and the mean values exceeded 4, sometimes considerably. To be more precise, the students were convinced of the positive role of correction (statement 5–90 %, M = 4.50), they approved of such teacher intervention (statement 2–86.4 %, M = 4.39), they were of the opinion that the knowledge of pronunciation aids communication (statement 10–86.4 %, M = 4.19), they enjoyed learning English pronunciation (statement 6–82.7 %, M = 4.19), and they believed that good pronunciation enhances their listening comprehension skills (statement 1–80.9 %, M = 4.11). Although the results for the remaining two statements were lower, they were also indicative of favorable attitudes towards learning and teaching pronunciation since 67.3 % of the participants agreed that good language learners are cognizant of pronunciation issues (statement 9, M = 3.76) and 58.2 % expressed the opinion that knowing and practicing pronunciation will lead to the improvement of their ability in English (statement 3, M = 3.67). It should also be pointed out that the percentage of the students questioning the facilitative role of pronunciation instruction never exceeded 10 % (it was the highest for statements 3 and 10), in

Table 2 Beliefs displayed by the participants about syllabus type

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
25.	I like to get a list of pronunciation features that will be taught in a course	62.7	28.2	9.1	3.72 (0.93)
26.	I like to study only the pronunciation features which are a problem in communication	27.2	40.9	31.9	2.96 (0.97)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

some cases a considerable number of students were undecided, in particular in the case of statement 3 linking overall improvement to pronunciation (32.7 %) and statement 9 concerning good language learners (26.4 %). As to the values of standard deviation, they oscillated between 0.7 and 0.9 and although they are not extremely high, they do indicate that there was considerable individual variation when it comes to responses to the statements in this category.

As regards the participants' beliefs concerning syllabus design, the results included in Table 2 testify to their preference for a structural rather than a task-based model of setting the agenda for pronunciation instruction. This is because while 62.7 % of the students declared that they would like to be given a list of pronunciation features to be covered in a course (statement 25, $M = 3.72$) and only 9.1 % were of the opposite opinion, just 27.2 % would like to focus only on the forms that are a source of problems in communication (statement 26, $M = 2.96$) and 31.9 % did not find this pedagogic option appealing. What is striking in this case are quite high percentages of responses in the *undecided* category, particularly for the statement reflective of a preference for a task-based syllabus (40.9 %), which might perhaps indicate that the students are not familiar with this pedagogic option with respect to pronunciation teaching. Also interesting is the fact that the values of standard deviation for both statements are over 0.90, a result which points to somewhat greater dispersion of responses than in the case of overall value of pronunciation instruction.

Much less straightforward are responses to statements reflecting beliefs about whether the teaching of pronunciation features should be separate from communicative activities or integrated with such activities. As illustrated in Table 3, on the one hand, the participants seemed to manifest a predilection for being given the opportunity to focus their attention on a specific pronunciation target, reflect on an explanation and then engage in practice activities dealing with this feature. This is evidenced by the fact that 70 % of them agreed with statement 27 ($M = 3.84$) concerning their awareness of what pronunciation feature is the focus of a particular class, 63.7 % stated that they liked to be provided with an explanation and practice opportunities, and 64.5 % preferred to practice individual sounds before they used them in speech ($M = 3.67$), with the percentages of those disagreeing standing at 8.2 %, 11.8 % and 16.3 %, respectively. On the other hand, however, even more participants were of the opinion that pronunciation practice should be incorporated into communicative activities, as demonstrated by the fact that 86.4 % agreed with statement 28 ($M = 4.25$) and not a single person disagreed with it, and 71.9 %

Table 3 Beliefs manifested by the participants about the design of classes devoted to pronunciation

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
16.	I prefer to practice individual sounds before I use them in speech	64.5	19.1	16.3	3.67 (1.05)
18.	I believe that intonation and rhythm are more important than individual sounds	48.2	39.1	12.7	3.43 (0.89)
27.	I like to know exactly which pronunciation feature I am learning	70.0	21.8	8.2	3.84 (0.95)
28.	I like learning pronunciation by using English in communication	86.4	13.6	0.0	4.25 (0.67)
29.	I like learning pronunciation by seeing the explanation, and then practicing	63.7	24.5	11.8	3.78 (0.97)
30.	I prefer to learn pronunciation as I work on different skills and activities	71.9	22.7	5.4	3.89 (0.88)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

concurred with statement 30 (M = 3.89), with just 5.4 % of disagreement. The students were somewhat less convinced of the superiority of suprasegmental features, such as rhythm and intonation, over individual sounds, although 48.7 %, a clear majority, agreed with statement 18 (M = 3.43) and only 12.7 % disagreed. On reflection, though, these findings should not be regarded as overly surprising or contradictory because they might indicate the participants' conviction that the two options should be combined, with pronunciation features first being introduced and practiced, and later employed in meaning and message conveyance. It should be noted that, with the exception of statement 28 (13.6 % of undecided students and the value of standard deviation standing at 0.67), quite a few respondents were in two minds about the value of isolation and integration, as indicated by the fact that the percentages of responses in the *undecided* category approached or exceeded 20 %, and they also varied in their opinions to a considerable extent, as shown by the *SD* values ranging from 0.88 to 0.97.

The situation is no less complex when it comes to the introduction of new pronunciation features, with the key distinction lying in the choice between deduction (i.e., rule provision) and induction (i.e., rule discovery), as well as specific techniques within each of these two options. As shown in Table 4, the participants manifested a strong preference for being provided with an explanation of the pertinent pronunciation rules, since as many as 80 % agreed with statement 11 (M = 4.01) and just 4.5 % disagreed with it. These results do not mean in the least that the students downright rejected induction as a viable instructional option, because as many as 81.8 % stated that would rather be exposed to new pronunciation features in spoken texts than be provided with rules (statement 8, M = 4.04), 56.4 % were of the opinion that it is best to discover pronunciation rules in cooperation with others (statement 7, M = 3.61), and 56.4 % stated that they liked to discover such rules on their own (statement 4, M = 3.59), with the percentages of

Table 4 Beliefs manifested by the participants about introducing pronunciation features

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
4.	I like to discover pronunciation rules by myself	56.3	28.3	15.4	3.59 (1.06)
7.	It is best to discover pronunciation rules together with other students	56.4	29.1	14.5	3.61 (1.01)
8.	I prefer to be given spoken texts with new pronunciation features rather than rules	81.8	16.4	1.8	4.04 (0.74)
11.	It is best when the teacher explains pronunciation features	80.0	15.5	4.5	4.01 (0.81)
12.	I find it helpful when the teacher uses my mother tongue to explain pronunciation	50.9	28.2	20.9	3.42 (1.14)
14.	I believe that the use of terminology is important in teaching pronunciation	33.7	39.1	27.2	3.03 (1.03)
17.	It helps me when teachers use demonstration in teaching pronunciation (e.g., charts)	60.0	22.8	17.2	3.60 (1.10)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

disagreement for these items standing at 1.8 %, 14.5 % and 15.4 %, respectively. As regards the specific ways in which the introduction of pronunciation features should proceed, the students were by and large in favor of the use of demonstration, as indicated by 60 % agreement and 17.2 % disagreement with statement 17 ($M = 3.60$), and they were cognizant of the facilitative role of the mother tongue in teaching pronunciation, as evident in the fact that 50.9 % agreed with statement 12 ($M = 3.42$) and 20.9 % were of the opposite opinion. By contrast, the students were much more skeptical about the need for reliance on metalanguage when teaching pronunciation features, since only 33.7 % agreed with statement 14 ($M = 3.03$) while 27.2 % disagreed with it. What is striking for this category are quite high values of standard deviation, exceeding 1.0 for items 4, 7, 12, 14 and 17, which indicates that there is considerable individual variation among students when it comes to their preferences concerning the introduction of phonological forms.

The students' preferences concerning practicing pronunciation features were considered with respect to the key distinctions between reliance on controlled activities and communicative tasks, on the one hand, and the use of production-oriented and reception-based techniques, on the other. As can be seen from Table 5, also in this case, the respondents seem to be rather eclectic in their approach and recognize a beneficial role of what specialists sometimes view as opposite, perhaps even mutually exclusive, instructional options. This is because, although 62.8 % of the participants emphasized the importance of the use of pronunciation features in communicative activities (statement 15, $M = 3.73$), 54.5 % acknowledged the value of performing traditional exercises, such as minimal pair practice (statement 19, $M = 3.58$). What is noteworthy in this case are very low percentages of

Table 5 Beliefs manifested by the participants about practicing pronunciation features

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
13.	I prefer to first understand how a sound is made before I have to produce it	55.5	30.9	13.6	3.73 (1.08)
15.	I believe it is important to use pronunciation features in communication	62.8	30.0	7.2	3.73 (0.85)
19.	Doing typical exercises (e.g., minimal pairs) is the best way to learn pronunciation	54.5	37.3	8.2	3.58 (0.83)
20.	I like to listen to authentic communication in order to learn pronunciation	81.8	16.4	1.8	4.23 (0.79)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

disagreement (7.2 % for statement 15 and 8.2 % for statement 19) and large numbers of undecided students (30.0 % for statement 15 and 37.3 % for statement 19). The responses to both of these statements testify to the conviction on the part of the participants that pronunciation practice has to involve the production of spoken output, be it more or less spontaneous. On the other hand, however, as many as 81.8 % of the students were of the opinion that learning pronunciation can be enhanced by listening to authentic communication (statement 20, $M = 4.23$), a mere 1.8 % rejected this assumption, and 16.4 % were undecided. In addition, 55.5 % expressed the view that they would prefer to know how a specific pronunciation feature is produced, before they are requested to use it themselves (statement 13, $M = 3.73$), while 13.6 stated the opposite. Also here the number of responses in the *undecided* category was substantial, amounting to 30.9 %, and the value of standard deviation was the highest, equaling 1.08.

As illustrated in Table 6, the participants were rather conservative in their beliefs concerning corrective feedback, which should not come as a surprise as this

Table 6 Beliefs manifested by the participants about corrective feedback on pronunciation errors

No	Statement	Students (N = 110)			
		A (%)	U (%)	D (%)	M (SD)
21.	I like the teacher to correct my pronunciation mistakes as soon as I make them	63.6	19.1	17.3	3.73 (1.31)
22.	I like the teacher to correct my pronunciation mistakes after an activity is completed	50.0	16.4	33.6	3.38 (1.37)
23.	I prefer to be corrected by other students rather than the teacher	6.4	19.1	74.5	1.92 (0.94)
24.	I believe that teacher should only correct errors which interrupt communication	20.1	36.4	43.5	2.75 (1.04)

A agree, *D* disagree, *U* undecided, *M* mean, *SD* standard deviation

outcome is consistent with the results of studies on learners' preferences concerning form-focused instruction in general (e.g., Pawlak, 2012, 2013a, b). In the first place, an overwhelming majority of the students were in favor of teacher correction, which is evidenced by the fact that only 6.4 % expressed a preference for peer-correction (statement 23, $M = 1.92$) and as many as 74.5 % rejected it as a viable instructional option. They were also against confining the provision of corrective feedback to pronunciation errors which get in the way of communication, as shown by 20.1 % agreement and 43.5 % of disagreement with statement 24 ($M = 2.75$). This could be interpreted as meaning that the focus of this type of intervention should be much broader and it perhaps should even be applied to the majority of pronunciation errors, although it has to be kept in mind that as many as 36.4 % of the students were undecided. The situation is more complex when it comes to the timing of corrective feedback because while 63.6 % of the participants expressed a preference for immediate correction (statement 21, $M = 3.73$), 50 % were of the opinion that delayed correction is a better option (statement 22, $M = 3.38$). Still, it should be noted that many more students were against delayed correction (33.6 %) than against immediate correction (17.3 %), which could mean that the latter is perceived as more advantageous. What is noteworthy in this category are very high values of standard deviation for all the items, ranging from 0.94 to 1.37, which implies that the provision of corrective feedback is an area where consensus regarding specific instructional options is hard to find.

An attempt was also made to identify relationships between the participants' beliefs regarding pronunciation instruction with respect to the categories discussed above and attainment, operationalized as the overall score on an oral interview, which is part of an end-of-the-year examination in practical English, and the pronunciation component of that score. It turned out, however, that all of these correlations were very weak and not statistically significant, with the highest value of the correlation coefficient ($r = -0.17$, $p = 0.076$) being identified in the case of the relationship between a favorable attitude towards pronunciation learning and teaching (see Table 1 above) and the pronunciation score. The fact that this relationship is negative could perhaps be cause for concern were it not for the fact that it is almost negligible and the participants' beliefs can at best be said to account for about 3 % of the variance in achievement. Interestingly, there was a very strong positive correlation between the pronunciation score and the overall result of the oral interview, with $r = 0.784$ ($p < 0.0001$), explaining over 60 % of the variance in the exam scores.

The more general preferences of the students' concerning learning and teaching pronunciation were tapped by means of four open-ended questions included at the end of the survey. When asked about the reasons why they liked learning pronunciation, the participants most often (54) pointed to the fact that it helps the communicate more effectively, as illustrated by such statements as: "Because the better my pronunciation, the better people will understand me and the easier I will find it to understand them. Knowing vocabulary, grammar and so on is kind of useless if you are unable to pronounce those structures correctly", or "It improves my English and I feel more comfortable in communication when I know more

about pronunciation of specific words". Apart from this, the students also stated that it helps them develop other language skills (19), makes it possible for them to become more native-like (14), boosts their confidence (9), helps them understand others (5), and they like the sound of English (4), with single respondents also commenting that learning pronunciation is fun, it is interesting, important, entertaining, enjoyable or it is simply something that a student of English has to do. As regards their justifications for disliking learning pronunciation, the students most often wrote that it is difficult (34) or boring (24), and some of them also commented that it is less important than grammar or vocabulary, it can be acquired naturally through listening, it is time-consuming or it is demotivating because the native-speaker level is beyond their reach. It should be noted, however, that as many as 30 participants simply reiterated that they liked working on this subsystem and thus provided no response to this question. With respect to the most preferred instructional techniques, a vast majority of the students (51) mentioned different types of listening (e.g., to native speakers, the teacher, other students, radio, songs, CDs, podcasts), a representative example being the following comment: "Listening to recorded conversations among natives, listening to the teacher and noticing how he pronounces things, speaking with other students in class". Apart from this, the students also mentioned repetition (20), making dialogs (14), the use of the pronunciation features taught in communication (13), doing typical exercises and practicing (12), reading and listening at the same time (11), being corrected (9), being provided with explicit information about articulation (3), or reading and repeating words (3), with single respondents also pointing to paying attention to sounds while doing other things, working with others, analyzing phonetic script, or simply stating that all the ways of learning pronunciation are beneficial. By contrast, the most dispreferred techniques included different forms of repetition (i.e., of single words or words that nobody uses, after the teacher or CD, in a chorus, all of these without being corrected) and techniques based on theoretical considerations (e.g., the use of complex terminology, provision of rules, the use of charts). As one of the respondents put it, "I do not like learning exactly the description of the way of articulation of new sounds. In my opinion, the practice of pronunciation of a new sound is more important and helpful in successful communication with others, not theory". Other participants were not very happy about using phonetic transcription, being corrected by the teacher or other students without an explanation, reading and recording or even incompetent teachers.

4 Discussion

The picture that emerges from the findings reported above is exceedingly complex and in some cases quite difficult to interpret. As regards the first research question concerning the participants' beliefs about various aspects of pronunciation instruction, it is clear that they manifest very favorable attitudes towards learning this target language subsystem and they are convinced that good pronunciation can

be beneficial, both with respect to effective communication and the development of specific language skills. Such results should not be surprising, given the fact that they were English majors who are required to attend theoretical and practical courses dealing with phonetics, they are expected to achieve high levels of mastery in this area, and pronunciation is included among the criteria taken into account during final examinations. The students also expressed a strong preference for the structural syllabus, where pronunciation features are preselected, ordered and taught one by one, which, again, can be accounted for in terms of the instruction they receive since pronunciation courses are structured in exactly such a way, with segments typically being covered in year 1 and aspects of suprasegmental phonetics in year 2. Since there is usually little integration between this course and other courses in practical English, such as those devoted to speaking or integrated skills, where problematic pronunciation features could be targeted, these sentiments are perhaps understandable. On the other hand, the participants' beliefs concerning the design of pronunciation-based lesson, the introduction of phonological forms or the techniques which can be used to practice these forms demonstrate that they were in favor of combining quite disparate approaches, as long as it serves the purpose of improving their pronunciation. Thus, even though they are clearly in favor of deduction, they also see the value of a more inductive approach, they recognize the contribution of controlled and communicative practice, as well as production and reception of the elements of pronunciation. Such a stance seems to be fully warranted in view of the fact that different stages in the process of pronunciation instruction may require the application of different techniques and procedures (e.g., reception and controlled practice quite naturally precede production and the performance of communicative tasks), and it seems to be reflective of the students' considerable experience in learning this subsystem. The situation is more straightforward in the case of the provision of corrective feedback, because the participants were overwhelmingly in favor of teacher correction, preferably such that would target a number of pronunciation errors, not only those that impede communication. On the other hand, they were less decisive with respect to the timing of correction, since they approved of both immediate and delayed intervention, in all likelihood depending on the type of activity being performed. A comment is also in order on the high percentages of neutral responses and high values of standard deviation in some cases. Yet again, this trend is to some extent predictable in light of the fact that the students could have been aware that different instructional options could be beneficial for different tasks and stages of learning, and that, quite advanced as they were, they could have opted for ways of learning that might be regarded as disparate but were effective for them.

Much more difficult to address is the second research question dealing with the relationship between the participants' beliefs about different aspects of pronunciation instruction and attainment on the oral interview, for the simple reason that the observed correlations were negligible and not statistically significant. At first blush, these results might be viewed as inexplicable since, also in line with the results of previous research on beliefs (see e.g., studies mentioned in the introduction to this paper), it could be assumed that learners' preferences should have a bearing on their

performance and ultimate level of achievement. Such an assumption, however, may be overly simplistic for a few reasons. First, while the conviction about the overall value of pronunciation instruction could indeed be expected to be related to attainment, such a relationship may not be the case for the various facets of instruction investigated in the present study, since, as was demonstrated above, different instructional options may be perceived as equally useful in different situations by the very same students, which makes it difficult to pinpoint a direct link with attainment. Second, the culprit for this lack of relationship could be a considerable degree of individual variation, which is predictable in the case of learners at this level, and their cognizance of the need to adjust instructional practices to different targets, tasks, goals and current priorities, which, in line with the tenets of complex system theories (Larsen-Freeman & Cameron, 2008), indicates that the interaction between beliefs and learning outcomes is intricate, dynamic, and affected by other variables. Third, it should be remembered that the limited attention and working memory capacities may preclude many students, even those at seemingly high proficiency levels, from effectively monitoring their pronunciation in real-time communication, where so many other things are at a premium (e.g., the choice of lexis, grammatical accuracy, pragmatic issues, keeping track of what is being said, planning what to say next), and lack of automaticity is bound to expose all the deficiencies. Such problems are inevitably exacerbated in an exam situation, not least because of the negative impact of affective factors, such as anxiety, which might indicate that the measures of attainment used in the present study might have been problematic.

Moving on to research questions three and four, the results can be regarded as promising because most of the students seemed to be aware that pronunciation is not studied and practiced for its own sake, and to realize that its mastery is important because it has the potential to contribute to successful communication. It is also comforting that the students reported attaching so much importance to different forms of listening, also to authentic input, which is undoubtedly indispensable for the transition from the use of pronunciation features in controlled activities to their accurate employment in spontaneous speech. On the other hand, the quite widespread opinion that pronunciation is difficult to learn and the process of learning is boring are insightful in the sense that they should alert teachers to the need to raise students' awareness in this respect and define the learning challenge in more accessible ways. By the same token, the visible disgruntlement with mindless repetition, often overused in pronunciation classes or the lack of appreciation for theoretical explanations should sensitize teachers to the fact that the palette of instructional options should be extended and efforts should be made to explain to students how metalinguistic information can contribute to greater mastery of pronunciation features.

It is also necessary to acknowledge the limitations of the study, which might be partly responsible for the fact that the results were in some cases inconclusive and the expected relationships failed to be identified. In the first place, the questionnaire used to collect the data is clearly in need of further development and refinement, both in terms of the choice of the main categories, the statements included in these

categories, and the wording of the items themselves, a task that may necessitate performing factor analysis. This is the corollary of the fact that its construction represented the first attempt to apply the findings of more general research in form-focused instruction to learning pronunciation and it was clear from the very outset that the instrument was far from perfect on a number of counts. Another problem is connected with the fact that attainment was operationalized in terms of performance on a high-stakes examination, a situation which is perhaps not very conducive to objectively gauging students' proficiency in any area, for the reasons explicated above. Although examination scores can be regarded as objective, not least because they are arrived at by more than one person on the basis of preset criteria, and there is no reason why they should not be considered in future studies, what could also have been taken into account were the final grades in the pronunciation course of the participants self-assessment with respect to pronunciation. Finally, it should be borne in mind that, being English majors expected to achieve high levels of proficiency and having the benefit of extensive theoretical and practical courses in phonetics, the participants represented a very distinctive group of foreign language learners and their beliefs are very unlikely to be shared by other groups of students for whom good pronunciation is hardly a priority.

5 Conclusion

Although there have been numerous studies of pronunciation learning and teaching, few of them have addressed learners' or teachers' beliefs in this area, and even fewer have done so in a principled manner, targeting different aspects of pronunciation instruction. The empirical investigation reported in the present paper has sought to remedy the situation by approaching pronunciation teaching in the same way as any other type of form-focused instruction and adopting the categories derived from theory and research in this area. Obviously the study represents merely the first step in this direction, mainly because the instrument still suffers from a number of weaknesses and it is clearly in need of further validation and modification for the purposes of future research. It is also evident that future studies should target other age groups, proficiency levels and educational contexts, and an attempt should be made to determine links between such beliefs and attainment, take into account variables that may impact differences in beliefs about pronunciation instruction (e.g., learning styles and strategies, gender, goals, previous experiences), explore the relationship between learners' and teachers' beliefs in this area, investigate the connection between such cognitions and actual classroom practices, as well as examining more temporal and situation-specific nature of beliefs. While the use of well-designed surveys distributed among large populations is one way of investigating such issues, a situated, context-sensitive approach is also necessary to obtain a more multi-faceted picture thereof, which would necessitate the use of a variety of data collection tools and the application of more longitudinal research designs. Such methodological considerations aside, the study

of beliefs concerning pronunciation instruction is without doubt a worthwhile undertaking, as it can help us better understand whether, why and how learners like to be taught aspects of this target language subsystem, which can contribute to greater effectiveness of instructional practices.

References

Allwright, R., & Bailey, K. M. (1991). *Focus on the language classroom.* Cambridge: Cambridge University Press.

Ariogul, S., Unal, D. C., & Onursal, I. (2009). Foreign language learners' beliefs about language learning: A study on Turkish university students. *Procedia – Social and Behavioral Sciences, 1,* 1500-1506.

Baker, A. A. (2011). ESL teachers and pronunciation pedagogy: Exploring the development of teachers' cognitions and classroom practices. In J. Levis, & K. LeVille (Eds.), *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference. Aug. 2012* (pp. 82-94). Ames, IA: Iowa State University.

Baran-Łucarz, M. (2006). Prosto w oczy – fonetyka jako "Michałek" na studiach filologicznych? In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce* (pp. 7-17). Konin. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Baran-Łucarz, M. (2012). Ego boundaries and attainments in FL pronunciation. *Studies in Second Language Learning and Teaching, 2,* 45-66.

Borg, S. (2003). Teacher cognition in grammar teaching: A literature review. *Language Awareness, 12,* 96-108.

Borg, S. (2008). *Teacher cognition and language education.* London: Bloomsbury Academic.

Breitkreutz, J., Derwing, T. M., & Rossiter, M. J. (2001). Pronunciation teaching practices in Canada. *TESL Canada Journal, 19,* 51-61.

Burgess, J., & Etherington, S. (2002). Focus on grammatical form: Explicit or implicit? *System, 30,* 433-458.

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition.* Mahwah, NJ: Lawrence Erlbaum.

Ellis, R. (2008). *The study of second language acquisition.* (2nd edition). Oxford: Oxford University Press.

Foote, J. A., Holtby, A. K., & Derwing, T. M. (2011). Survey of pronunciation teaching in adult ESL programs in Canada, 2010. *TESL Canada Journal, 29,* 1-22.

Grotjahn, R. (1991). The research programme: Subjective theories. *Studies in Second Language Acquisition, 13,* 187-214.

Horwitz, E. K. (1987). Surveying student beliefs about language learning. In A. L. Wenden (Ed.), *Learner strategies in language learning* (pp. 119-129). New York: Prentice Hall.

Janicka, K., Kul, M., & Weckwerth, J. (2005). Polish students' attitudes to native English accents. In K. Dziubalska-Kołaczyk & J. Przedlacka (Eds.), *English pronunciation models: A changing scene* (pp. 251-292). Bern: Peter Lang.

Kalaja, P., & Barcelos, A. M. F. (2003). Introduction. In P. Kalaja & A. M. F. Barcelos (Eds.), *Beliefs about SLA: New research approaches* (pp. 87-108). Dordrecht: Kluwer.

Kalaja, P., & Barcelos, A. M. F. (2012). Beliefs in second language acquisition: Learner. In C. A. Chapelle (Ed.), *The encyclopedia of applied linguistics.* Wiley.

Kelly, G. (2000). *How to teach pronunciation.* London: Longman.

Krzyżyński, J. (1988). Folk linguistics and its influence on the attitudes and motivation of learners of English as a foreign language. *Glottodidactica, 19,* 107-113.

Larsen-Freeman, D. (2010). Teaching and testing grammar. In M. H. Long & C. J. Doughty (Eds.), *The handbook of language teaching* (pp. 518-542). Oxford: Wiley-Blackwell.

Larsen-Freeman, D., & Cameron, L. (2008). *Complex systems and applied linguistics.* Oxford: Oxford University Press.

Loewen, S. (2011). Focus on form. In S. Fotos (Ed.), *Handbook of research in second language teaching and learning. Volume II* (pp. 576-592). New York and London: Routledge.

Loewen, S., Shaofeng, L., Fei, F., Thompson, A., Nakatsukasa, K., Seongmee, A., & Xiaoqing, C. (2009). Second language learners' beliefs about grammar instruction and error correction. *Modern Language Journal, 93,* 91-104.

Mantley-Bromley, C. (1995). Positive attitudes and realistic beliefs: A link to proficiency. *Modern Language Journal, 79,* 372-386.

Mori, Y. (1999). Epistemological beliefs and language learning beliefs: What do language learners believe about their learning? *Language Learning, 49*, 377-415.

Nassaji, H., & Fotos, S. (2011). *Issues in form-focused instruction and teacher education*. In S. Fotos & H. Nassaji (Eds.), *Form-focused instruction and teacher education: Studies in honor of Rod Ellis* (pp. 7-15). Oxford: Oxford University Press.

Nowacka, M. (2006). Progress in pronunciation: Mission (im)possible? A longitudinal study of college students' phonetic performance. In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce* (pp. 101-120). Konin. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Pawlak, M. (2004). The role of error correction in teaching pronunciation. In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie 1/2004. Zeszyt Naukowy Instytutu Neofilologii 3.* (pp. 66-74). Konin. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Pawlak, M. (2006). The role of learner autonomy in pronunciation instruction. In W. Sobkowiak i E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Neofilologia. Tom VIII* (pp. 131-143). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Pawlak, M. (2008). Another look at the use of pronunciation learning strategies: An advanced learner's perspective. In E. Waniek-Klimczak (Ed.), *Issues in accents of English* (pp. 304-322). Newcastle upon Tyne: Cambridge Scholars Publishing.

Pawlak, M. (2010). Teaching foreign language pronunciation: Issues in research focus and methodology. In E. Waniek-Klimczak (Ed.), *Issues in accents of English 2: Variability and norm* (pp. 169-183). Newcastle upon Tyne: Cambridge Scholars Publishing.

Pawlak, M. (2012). Comparing differences in perceptions of form-focused instruction: The case of advanced Polish and Italian learners. In A. Wojtaszek, & J. Arabski (Eds.), *Aspects of culture in second language acquisition and foreign language learning* (pp. 77-94). Heidelberg – New York: Springer.

Pawlak, M. (2013a). Comparing learners' and teachers' beliefs about form-focused instruction. In D. Gabryś-Barker, E. Piechurska-Kuciel, & J. Zybert (Eds.), *Investigations in teaching and learning languages: Studies in honor of Hanna Komorowska* (pp. 109-131). Heidelberg – New York: Springer.

Pawlak, M. (2013b). The effect of explicit and implicit corrective feedback on eliminating pronunciation errors. In E. Waniek-Klimczak & L. Shockey (Eds.), *Teaching and researching English accents in native and non-native speakers* (pp. 85-101). Heidelberg – New York: Springer.

Sawir, E. (2002). Beliefs about language learning: Indonesian learners' perspectives and some implications for classroom practices. *Australian Journal of Education, 46,* 323-337.

Schulz, R. (2001). Cultural differences in student and teacher perceptions concerning the role of grammar instruction and corrective feedback: USA-Colombia. *Modern Language Journal, 85,* 244-258.

Simon, E., & Taverniers, M. (2011). Advanced learners' beliefs about language learning and teaching: A comparison between grammar, pronunciation, and vocabulary. *English Studies, 92,* 866-922.

Smojver, V. J., & Stanojević, M. -M. (2013). Stratification as a lingua franca: Identity construction of learners and speakers. In Waniek-Klimczak, E. and L. Shockey (Eds.), *Teaching and researching English accents in native and non-native speakers* (pp. 191-206.) Heidelberg: Springer.

Sobkowiak, W. (1996). *English phonetics for Poles.* Poznań: Bene Nati

Sobkowiak, W. (2002). English speech in Polish eyes: What university students think about English pronunciation teaching and learning. In E. Waniek-Klimczak & J. P. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology: EFL perspective* (pp. 177-196). Frankfurt: Peter Lang.

Sobkowiak, W. (2005). Why not LFC? In K. Dziubalska-Kołaczyk & J. Przedlacka (Eds.), *English pronunciation models: A changing scene* (pp. 131-150). Bern: Peter Lang.

Spada, N., Barkaoui, K., Peters, C., So, M., & Valeo, A. (2009). Developing a questionnaire to investigate second language learners' preferences for two types of form-focused instruction. *System, 37*, 70-81.

Szpyra-Kozłowska, J. (2008). English pronunciation pedagogy in Poland – Achievements, failures and future prospects. In E. Waniek-Klimczak (Ed.), *Issues in accents of English* (pp. 212-234). Newcastle upon Tyne: Cambridge Scholars Publishing.

Szpyra-Kozłowska, J., Frankiewicz, J., Nowacka, M., & Stadnicka, L. (2004). Pronunciation testing – atomistic or holistic?. In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie 1/2004. Zeszyt Naukowy Instytutu Neofilologii 3.* (pp. 133-140). Konin. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Szpyra-Kozłowska, J., & Stasiak, S. (2006). Pronunciation proficiency and phonetic transcription. In In W. Sobkowiak i E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Neofilologia. Tom VIII* (pp. 275-284). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Szyszka, M. (2006). Phonetic portfolio – towards learner autonomy. In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce* (pp. 239-246). Konin. Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Szyszka, M. (2011). Foreign language anxiety and self-perceived English pronunciation competence. *Studies in Second Language Learning and Teaching, 1,* 283-300.

Thompson, R. I. (2012). ESL teachers' beliefs and practices in pronunciation teaching: Confidently right or confidently wrong? In J. Levis & K. LeVelle (Eds.), *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference. Aug. 2012* (pp. 224-233). Ames, IA: Iowa State University.

Wahid, R., & Sulong, S. (2013). The gap between research and practice in the teaching of English pronunciation: Insights from teachers' beliefs and practices. *World Applied Sciences Journal, 21,* 133-142.

Waniek-Klimczak, E. (1997). Context for teaching English phonetics and phonology at Polish Universities and Colleges: A survey. In E. Waniek-Klimczak (Ed.), *Teaching English phonetics and phonology II: Accents '97* (pp. 5-17). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Waniek-Klimczak, E. (2002). Akcent wyrazowy w nauczaniu języka angielskiego. In W. Sobkowiak i E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Neofilologia. Tom II* (pp. 101-114). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Wrembel, M. (2005). An overview of English pronunciation teaching materials. Patterns of change. In K. Dziubalska-Kołaczyk & J. Przedlacka (Eds.), *English pronunciation models: A changing scene* (pp. 421-438). Bern: Peter Lang.

Yang, N. (1999). The relationship between EFL learners' beliefs and learning strategy use. *System, 27,* 515-535.

‘Polglish’ in Polish Eyes: What English Studies Majors Think About Their Pronunciation in English

Ewa Waniek-Klimczak, Arkadiusz Rojczyk and Andrzej Porzuczek

Abstract This paper reports on selected results of a large-scale questionnaire study conducted among Polish students of English. Continuing the tradition of pronunciation attitude surveys in Poland, the present study concentrates on a possible relationship between what students perceive as correct pronunciation and a Polish accent in English in correspondence to the level of studies (BA vs. MA) and gender. Supporting the results reported in earlier studies, the study shows that a vast majority of respondents want their pronunciation to be correct and would want to speak like native speakers, even if it required a lot of their time and effort; moreover, even though students may have doubts about success, they would prefer their pronunciation not to be Polish-accented. The decomposition of the data shows an effect of education level and gender on the results, with females less likely to claim that their pronunciation does not have Polish accent features, and MA students less concerned with Polish features in their English pronunciation than the BA students. This may suggest that a strongly negative attitude towards ‘Polglish’ depends on the education level and experience on the one hand, and a gender-specific approach to self-assessed accent features on the other.

1 Introduction

Research into the attitudes and beliefs of the students towards their pronunciation in English has a relatively short, but interesting history in Poland. With the main aim of probing the validity of a native-speaker model and the usefulness of pronunciation

E. Waniek-Klimczak (✉)
University of Łódź, Lodz, Poland
e-mail: ewaklim@uni.lodz.pl

A. Rojczyk · A. Porzuczek
University of Silesia, Katowice, Poland
e-mail: arkadiusz.rojczyk@us.edu.pl

A. Porzuczek
e-mail: andrzej.porzuczek@us.edu.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_2

instruction in an academic setting, the studies asked two major types of questions, which can be simplified as (i) would you like to speak like a native speaker and (ii) do you think pronunciation (instruction) is important? Although individual studies differed in the approach and/or focus and the answers largely depended on the way the questions were asked (see Sobkowiak, 2002, p. 178), the majority of students provided a positive answer to both questions, especially if they were enrolled in English-major programs (Waniek-Klimczak & Klimczak, 2005). Thus, Polish students may seem to be fairly traditional in their attitude to the pronunciation of English, upholding the status of native English as desirable in education, both as a model in teaching and as a target in pronunciation learning. When viewed from the perspective of comfortable intelligibility (Kenworthy, 1987) or English as a Lingua Franca approach (Jenkins, 2000), the above conclusion from earlier studies seems surprising enough to provoke further questions and call for more research. The way a present study hopes to contribute to solving the puzzle of Polish students' attitudes to English pronunciation is to adopt a Polish-accent perspective; thus, the study explores the beliefs of the students about their own pronunciation and a Polish accent in English. Unlike other studies, what is attempted here is the analysis of the impact of two factors: gender and educational experience, operationalised in terms of BA vs. MA level of studies.

Previous studies on the attitudes of Polish students of English adopted a more general perspective. The first study, referred to as an element of inspiration by Sobkowiak (2002), was conducted by Krzyżyński (1988), who was interested in students' views on pronunciation as compared to other elements of the English system and found that English majors in Poznań believed pronunciation to be less important than grammar or lexis for overall language proficiency; moreover, in line with the researcher's views, they believed that correct pronunciation was given too much attention in Polish schools. These findings were partly corroborated by Sobkowiak (2002) in his large-scale study of students enrolled in different English major programs in the same institution (Adam Mickiewicz University in Poznań), with the majority of students (67 %) not agreeing with the statement that "good pronunciation is more important than grammar or vocabulary in English" (Sobkowiak, 2002, p. 183),but many of them (48 %) practicing pronunciation regularly themselves and many more (75 %) wishing they had more pronunciation practice in the institutional setting. The study conducted by Waniek-Klimczak (1997) in the Łódź area brought similar results with respect to a positive attitude of English majors towards pronunciation instruction; it was also in this study that the question of the aims of pronunciation learning was explicitly asked, with native-like pronunciation contrasted with fluency, confidence and ease of communication. Not surprisingly perhaps, when asked if they would like to speak with native-like accents, students said yes; however, when asked to point to major aims in pronunciation teaching, they chose fluency, confidence and communication much more often than native-like accents. In another study, Waniek-Klimczak and Klimczak (2005) compared the attitudes of English and non-English majors at the University of Łódź and found that, although both groups said they would like to speak with a native-like accent, it was the groups of English majors who also said they believed

it was possible to achieve. A strong preference for native-like pronunciation was found in yet another study conducted in Poznań: Janicka et al. (2005) found that English majors had a strong positive attitude towards native models in pronunciation teaching, with British or American English accepted as the two major choices.

Focusing on native-speaker models to a considerable extent, the above-mentioned studies seem to have neglected students' attitudes towards a rather obvious alternative available to the students, i.e. the pronunciation of English with a Polish accent. It is this specific perspective that is adopted in the present paper, which reports on a 'Polglish' aspect of learner accent opinions and beliefs on the basis of a large-scale questionnaire study exploring attitudes towards English pronunciation among Polish students enrolled in English tertiary level programs (BA and MA) in Poland. The inspiration for the line of reasoning proposed here comes from two major sources: the very term 'Polglish', somewhat controversially used for Polish-accented English by Sobkowiak (1996), and earlier studies in a European context, which show that L1-accented English is not accepted as a potential target for pronunciation learning, as it enjoys very low prestige among learners (e.g., Austrian students of English downgrading Austrian-accented English in Dalton-Puffer et al., 1997 or Croatian advanced students' negative attitude towards a Croatian-accented English in Smojver and Stanojević, 2013). As mentioned above, earlier studies conducted in Poland in similar settings showed that advanced students value pronunciation instruction (Waniek-Klimczak, 1997), would like to have more pronunciation practice in their language training (Sobkowiak, 2002) and have a strong preference for native-like pronunciation as their main goal (Janicka et al., 2005). While these findings seem to indicate that, at least among English majors, no other goal than native-like pronunciation is accepted, it is tempting to see to what extent the Polish accent may be perceived as an identity-signalling alternative, as suggested by the term 'Polglish' (as compared to e.g., 'Spanglish').

2 The Study

The data analysed in this study come from a large-scale project conducted by at the University of Łódź and the University of Silesia with the aim of exploring the relationship between the attitudes towards the pronunciation varieties in the native language (L1) and the target language (L2) among students enrolled in the English programmes in respective regions (see Waniek-Klimczak et al., 2013 for a full report on participant data). The key research questions explored here refer to the attitude towards Polish-accented English in the context of two major grouping variables: the level of education coupled with experience (BA vs. MA level) and gender. The following specific questions are analysed:

1. Do advanced learners of English (English majors) care about the correctness of their pronunciation in English?

2. Do they believe their pronunciation in English does NOT contain features characteristic for a Polish accent?
3. Would they want their pronunciation NOT to have Polish features?
4. Would they want their pronunciation to show that they come from Poland?

The interpretation of the answers to the above questions is based on the assumption that correctness can be associated with native-like or proficient non-native speech (Q 1), and the attitude towards Polish-accented English may be related to self-assessed pronunciation (Q 2) as well as pronunciation goals (Q 3) in a broader socio-cultural context (Q 4). Additional aspects taken into consideration in the discussion include items related to a possible wish to speak English like a native speaker of this language and the reasons for such a choice (see Waniek-Klimczak et al., 2013 for a thorough analysis of the answers to these questions).

2.1 Methods

The data were gathered by means of an anonymous questionnaire in Polish; the questionnaire comprised background (bio) questions and 27 sets of main survey questions and statements. Most items followed the Likert-scale format, asking the participant's agreement or disagreement with given statements on a 5-point scale (from 5— strongly agree to 1—strongly disagree) with several questions requiring a nominal 'yes/no' answer. All participants volunteered to take part in the research and were not paid for their participation. It took them about 20 min on average to complete the questionnaire. The results were analysed with respect to the number of students choosing a specific answer in relation to the level of the study (BA vs. MA) and gender of participants. All responses were transformed to numerical values for statistical analyses (descriptive statistics and ANOVA).

2.1.1 Participants

The participants were 507 students of English (translation and teacher training programmes) at Polish state universities (BA and MA), teacher training colleges, state schools of professional education (BA level) and one private college (BA level). The majority of respondents were females (four times as many as males) studying at the BA level (see Table 1). Table 1 presents the number of subjects grouped according to the independent (grouping) variables of gender and tertiary education level selected for the present study. The difference in the sample size between gender and level results from the fact that six participants failed to provide their gender in the questionnaire.

Table 1 Sample characteristics for independent variables of Gender and Level

Factor	Feature	Sample
Gender[a]	Female	403
N = 501	Male	98
Level	BA	393
N = 507	MA	114

[a] 5 subjects failed to provide this specification

2.1.2 Participant Language Proficiency Profile

As participants were enrolled in English programmes at the BA or MA level, the level of their language proficiency in English can be predicted to differ, with MA students expected to have reached at least a C1 proficiency level at the end of their BA programmes. The proficiency level of the BA students is more difficult to predict, as they would have been accepted on the basis of their final secondary school language exam, with the requirements as to the grade dependent on the popularity of a given tertiary institution (with a general tendency for state universities to attract more students and consequently, requiring higher grades). The expected difference in the grades may have had a direct impact on students' self-rated proficiency level, especially among the BA students. As discussed in an earlier report on selected aspects of the study (Waniek-Klimczak et al., 2013), the results show a clear relationship between the level of education (BA vs. MA) and the type of tertiary institution (State University, College vs. Private University), with the mean score for self-rated proficiency in English (*I regard my command of English as excellent* (*C2*), *advanced* (*C1*), *upper-intermediate* (*B2*), *intermediate* (*B1*), *elementary* (*A1/A2*) at the level of 4.03 ($SD = 0.67$) and a significant main effect of the place of study [$F(2, 344) = 10.887$, $p < 0.001$]. The highest mean ratings were provided by state university students ($M = 3.95$, $SD = 0.63$) followed by college students ($M = 3.81$, $SD = 0.56$) and private university students ($M = 3.25$, $SD = 0.58$. The difference between BA and MA students was highly significant [$F(1, 401) = 113.84$, $p < 0.001$], with MA students rating their proficiency considerably higher ($M = 4.59$, $SD = 0.51$) than BA students ($M = 3.89$, $SD = 0.6$).

Self-rated pronunciation level (*I regard my pronunciation in English as excellent, very good, good, poor, elementary*) tended to be assessed lower than language proficiency, with the average score 3.26, $SD = 0.70$. The main effect of the place of study for the state university ($M = 3.11$, $SD = 0.77$), the college ($M = 3.2$, $SD = 0.59$), and the private university ($M = 3$, $SD = 0.73$) was not significant [$F(2, 344) = 1.134$, $p = 0.32$], indicating that unlike in the case of overall proficiency level, the place of study did not systematically affect self-rating of English pronunciation. Interestingly, however, there was a very strong effect of experience on self-rating pronunciation scores [$F(1, 400) = 37.38$, $p < 0.001$]. MA students rated their pronunciation substantially higher ($M = 3.64$, $SD = 0.62$) than BA students ($M = 3.18$, $SD = 0.69$).

2.1.3 Questionnaire Items Analysed in the Study

In the current study, the following items from the questionnaire have been analysed:

(9b). I care about my pronunciation in English being fully correct.
(11b). I think that my pronunciation in English DOES NOT contain features characteristic for Polish pronunciation.
(12.b). I care about my English pronunciation NOT having features characteristic for Polish pronunciation.
(7b). I care about my pronunciation in English signalling that I am from Poland.

All of the above items were a subject to a Likert scale, with the highest score (5) coinciding with the answer 'strongly agree' and the minima (1) with the answer 'strongly disagree'. The numerical data for each question were analysed by means of a two-way independent 2 × 2 ANOVA with two levels for each independent variable (Gender: female /male; Level: BA /MA). Thus, the results are based on the analysis of the effect of either Gender or Level as an independent variable on 1–5 responses as dependent variables. The correspondence between the questions was checked with Spearman Rank correlation.

2.2 Results and Analysis

The first question to be considered explores the issue of correctness of pronunciation without specifying the conditions for correctness. The reason for asking a question formulated in such general terms was the hope that the relationship between the answer to this question and the questions related to native-like vs. Polish accented features would make it possible to deduce the meaning of correctness for the respondents. The mean score across the sample proves that respondents find correctness of pronunciation an important issue, with the mean score close to the maximal one ($M = 4.8$, $SD = 0.43$). The analysis for the effect of the two grouping variables (Level and Gender) shows that although neither of these factors systematically affects the scores, it is Gender that is much closer to a systematic differentiation of the data than Level, with the results close to significant in the latter case [$F(1,498) = 3.814$, $p = 0.051$), but not the former [$F(1,503) = 1.3$, $p = 0.25$]. Thus, the correctness of pronunciation proves to be important for the respondents across the Level of studies, with MA students scoring slightly lower ($M = 4.77$, $SD = 0.44$) than BA students ($M = 4.82$, $SD = 0.42$) and with females tending to value the correctness more ($M = 4.83$, $SD = 0.42$) than males ($M = 4.73$; $SD = 0.44$) (see Fig. 1). This final finding is by no means surprising, as it supports a generally expected tendency for females to place emphasis on correctness in their first language (Labov, 1972). There was no significant interaction between Gender and Level [$F(1, 496) = 0.221$, $p > 0.05$].

The two following questions were posed to uncover the beliefs of the students with respect to Polish features in their English pronunciation: the first question: (11b). *I think that my pronunciation in English DOES NOT contain features*

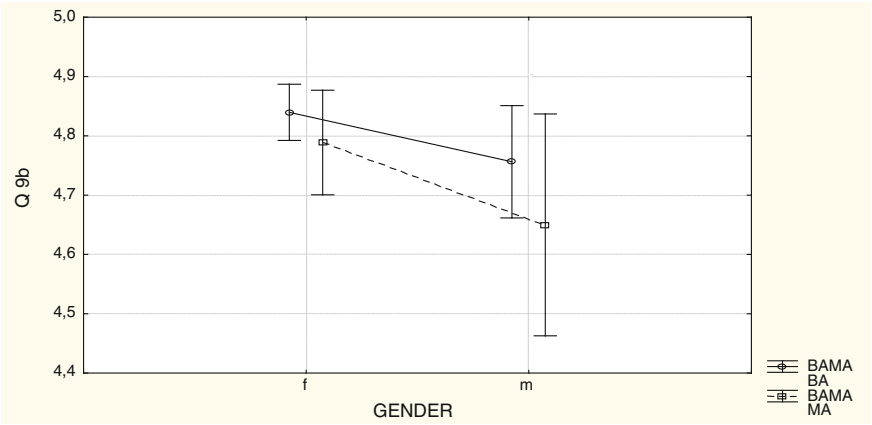


Fig. 1 The interaction between gender and level for the question (9b) *I care about my pronunciation in English being fully correct*

characteristic for Polish pronunciation explores self-awareness and self-rating with respect to Polish accent features, while the other one: (12b). *I care about my English pronunciation NOT having features characteristic for Polish pronunciation* aims to add an attitudinal value to the previous question. When viewed across the data, the results prove to follow a pattern that is captured by Spearman Rank correlation as highly significant [$r(504) = 0.17$, $p < 0.001$], indicating a predicable correlation that students who do not desire to have Polish features in their English pronunciation will put more care to avoid them. However, when analysed for the effect of Gender and Level, the results suggest that the two sides of the coin, i.e. self-rating and the attitude towards Polish features are very different and motivated by diverse factors. More specifically, with the mean score at the level of $M = 2.8$ *(SD* = 1.05*)* in the self-rating question (11b), the results prove to be sensitive to the effect of Gender across the group [$F(1,499) = 5.693$, $p < 0.05$], with females rating their pronunciation as more Polish-accented ($M = 2.76$, $SD = 1.04$) than males ($M = 3.04$, $SD = 1.09$) (see Fig. 2). Surprisingly, although BA students self-rated their English pronunciation as characterized by more Polish pronunciation features ($M = 2.77$, $SD = 1.04$) than MA students ($M = 2.95$, $SD = 1.09$) the difference was not statistically significant [$F(1, 504) = 2.42$, $p > 0.05$]. No significant interaction was found between Gender x Level and self-reported degree of Polish features in English pronunciation [$F(1, 504) = 2.42$, $p > 0.05$].

When it comes to the attitudinal question (12b), the overall score is very high (M = 4.7, $SD = 0.63$); here it is the effect of Level [$F(1, 504) = 4.762$, $p < 0.05$], and not Gender [$F(1, 499) = 0.791$, $p > 0.05$], that proves to differentiate the groups in a systematic way. While both females ($M = 4.67$, $SD = 0.62$) and males ($M = 4.6$, $SD = 0.65$) provided very similar rating, BA students were significantly more concerned about not having Polish-accented features in their pronunciation ($M = 4.69$, $SD = 0.6$) than MA students ($M = 4.54$, $SD = 0.71$). There was no

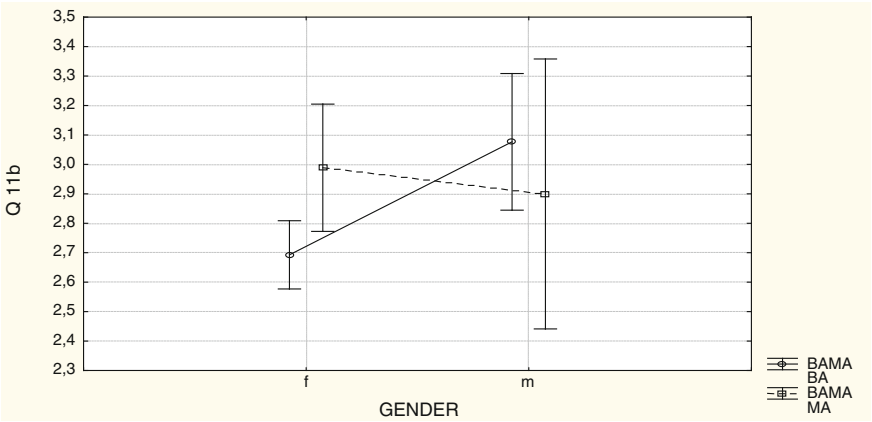


Fig. 2 The interaction between gender and level for the question (11b) *I think that my pronunciation in English DOES NOT contain features characteristic for Polish pronunciation*

significant interaction between Level and Gender [$F(1, 504) = 4.762$, $p > 0.05$] despite observably lower scores for males in the group of MA students (see Fig. 3).

The final question analysed in connection with Polglish is the potential identity function of the accent explored in the answers to the question (7b): *I care about my pronunciation in English signalling that I am from Poland.* Interestingly, however, with the mean value at the level of $M = 1.4$ ($SD = 0.61$), the results do not prove to be systematically sensitive to any of the independent variables, indicating a regular distribution across Gender [$F(1, 499) = 0.791$, $p > 0.05$] (females: $M = 1.4$, $SD = 0.69$; males: $M = 1.38$, $SD = 0.65$) and Level [$F(1, 504) = 4.762$, $p > 0.05$] (BA: $M = 1.39$, $SD = 0.68$, MA: $M = 1.41$, $SD = 0.68$).

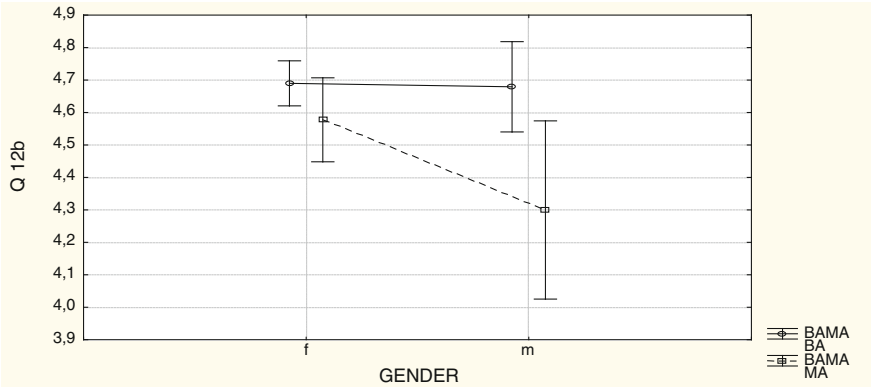


Fig. 3 The interaction between gender and level for the question (12b) *I care about my English pronunciation NOT having features characteristic for Polish pronunciation*

3 Discussion

The attitudes and beliefs of Polish advanced learners of English, especially the ones studying to become language specialists, have been repeatedly found to reflect a strong position of a native-speaker model, with respondents claiming that they aspire towards native-like pronunciation (e.g., Waniek-Klimczak, 1997; Janicka et al., 2005; Waniek-Klimczak & Klimczak, 2005). The language profile of participants in this study shows that they follow a similar pattern to the one found in earlier studies, i.e. they would like to speak like native speakers even if it required a lot of time and effort (see Sect. 2.2.). Moreover, while they believe pronunciation in English to be important, they also do not feel satisfied with their own results, self-rating it much lower than their general language proficiency in English (global mean 3.26 for self-rated proficiency vs. 4.03 for the command of English, see Waniek-Klimczak et al., 2013). These findings suggest that the respondents either treat pronunciation as a difficult element of language proficiency or they find native-like pronunciation particularly difficult to attain. As it seems logical to expect learners to be frustrated with their own progress if they set the goal too high, probing further into students' beliefs, we turn to the issue of correctness and the attitudes towards the 'Polishness' of their accent. The results for the whole investigated population show that correctness is an extremely important aspect of pronunciation (Q 1, global mean 4.8); given previous findings (Waniek-Klimczak et al., 2013), we have all reasons to expect correctness to be defined in terms of native-speaker norm. Attempts to investigate the issue further by exploring the attitude toward Polish accent features do not provide evidence for admitting Polish accent features into the possible correctness scale, with a vast majority of the students not wanting their pronunciation in English to have Polish features (Q 3, global mean 4.7). The answers to the question about the beliefs about Polish pronunciation features being present in respondents' English further support the assumption that 'good' pronunciation is measured with respect to native-speaker speech, as the global mean is relatively low, at the level of 2.8 (Q 2). When compared to the self-rated proficiency level (3.26), the result for the NOT having Polish accent features seems strikingly low. The difference between the results in these two items may suggest, however, that it is actually the very presence of Polish accent features that students associate with 'incorrect' pronunciation in English. In view of the above, it is not surprising that a vast majority express negative attitude towards an ethnic identity function of their accents, saying that they would NOT want their accent to show that they come from Poland (Q 4, global mean 1.4).

While the above results for the whole group of respondents show a general trend, the investigation of the effect of two factors: level of study and gender, reveals the existence of an interesting dynamism in the data. The latter factor seems to be relatively rarely included in the study of non-native accent beliefs; in the current study, it proves to be significant in the case of the beliefs connected with the presence of Polish accent features in English pronunciation (Q 2), with females more critically evaluating their pronunciation in this respect (we assume here that

Polish features are perceived as undesirable by the respondents). This result suggests that women may be more critical of their pronunciation as they aspire towards native-like model that they perceive as correct pronunciation (the standard), following the pattern found in sociolinguistic studies (Labov, 1972). Interestingly, while other items do not yield statistically significant difference between investigated males and females, the results differ in the way that may encourage further research into the effect of gender. More specifically, the data show that firstly, females declare caring about the correctness of their pronunciation more than males (with the difference approximating the probability level $p = 0.0513$, Q 1); secondly, although the two groups do not differ systematically with respect to the care about the lack of Polish features in their English pronunciation, females seem much more decisive in their attitudes (a smaller range if values, from 4.6 to 7.73 as compared to 4.48–4.73 for males, Q 3); finally, the two groups do not differ in a strongly negative attitude to their pronunciation showing their ethnic origin (Q 4), although the difference in the distribution of values can be also observed (1.34–1.46 for females, 1.23–1.51 for males.

Braking down the data for the level of studies (BA vs. MA) brings other interesting results: here the difference between the groups is significant in the case of Q 3 (*I care about my pronunciation not having Polish features*). Interestingly, the more experienced MA students declare a relatively lower degree of belief that Polish pronunciation features matter and need to be eradicated. The mean values are still high, with the range of answers between 4.63–4.75 for BA and 4.42–4.66 for MA students; however, the systematicity of the difference suggests that it is a regular change that we are dealing with. If this reasoning is correct, then both language and general life experience (MA students tend to be older than BA students) may affect the attitude of English majors, who become more realistic (with pronunciation still believed to be important but also difficult) and perhaps also less strongly attached to the native-speaker model. Their answers (still very high, but closer to 'agree' than strongly agree') can also be interpreted in terms of a wider perspective on their professional development. As shown by an earlier study (Waniek-Klimczak et al., 2013), although both MA and BA students declare that they would want to attain native-speaker pronunciation, even if it costs a lot of time and effort, there is a difference in the reasons, with the MA students rating 'importance for one's job' significantly higher than BAs. Thus, naturally, the MA students do become more job-oriented, with correct, even native-like accent potentially useful, but not crucial. Further studies are needed to show whether and at which stage experience increases acceptance for Polish accent features and whether 'Polglish' stands the chance of being recognized as an ethnically-embedded signal of identity. With the group of students explored in the present study, English specialists, the tendency to value ultimate attainment is not only not surprising, but in fact expected (see e.g., Dalton-Puffer et al., 1997; Waniek-Klimczak & Klimczak, 2005). It will require a comparison across different students and users of English in Poland to see to what extent 'Polglish' is recognized as a variety and whether a positive value can be attached to it.

4 Conclusion

The present study aimed to explore the attitudes of Polish English major students with respect to the elements of Polish features in their pronunciation. The results show that the majority of students care about correctness of their pronunciation and do not want Polish features to be present in their speech; given their virtually unanimous agreement that native speaker accent is to be desired (94 % say 'yes' to the statement: *If it was possible, I would like to speak like a native English or American person, even if it required a lot of time and effort*), it is the native-speaker norm that seems to be associated with correctness. Thus, the present study supports earlier findings in proving that 'native speaker is not dead', at least not in the pronunciation of English. However, interesting results have been obtained with respect to the effect of gender and the level of studies, with the former significant in the case of self-rated amount of Polish features in English pronunciation (females not agreeing that their pronunciation does not contain Polish features more strongly than males) and the latter in the case of the care taken for their pronunciation not having these features—the BA students care much more about it than MA students, who are more ready to accept 'Polglish' in their English. This suggests that students' pronunciation goals change with experience; however, it is unclear whether the change signals an increased readiness to embrace 'Polglish' as a sign of identity or, simply, an inevitable reality. The difference between the two types of motivation has important implications for pronunciation teaching and learning, as it is in the former case, but not the latter, that increased instruction may not be needed at the MA level. If what experienced students say stems from their lack of success in pronunciation learning rather than a conscious accent choice, pronunciation teaching goals may need to be revised, but pronunciation instruction needs to be continued.

References

Dalton-Puffer, Ch., Kaltenboeck, G., & Smit, U. (1997). Learner attitudes and L2 pronunciation in Austria. *World Englishes, 16,* 115-127.

Janicka, K., Kul, M., & Weckwerth, J. (2005). Polish students' attitudes to native English accents. In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: A changing scene* (pp. 251-292). Bern: Peter Lang.

Jenkins, J. (2000). *The phonology of English as an international language*. Oxford: Oxford University Press.

Kenworthy, J. (1987). *Teaching English pronunciation.* London: Longman.

Krzyżyński, J. (1988). Folk linguistics and its influence on the attitudes and motivation of learners of English as a foreign language. *Glottodidactica, 19,* 107-113.

Labov, W. (1972). *Sociolinguistic patterns.* Philadelphia, PA: University of Philadelphia Press.

Smojver, V. J., & Stanojewić, M.-M. (2013). Stratification as a Lingua Franca: Identity Construction of learners and speakers. In E. Waniek-Klimczak, & L. Shockey (Eds.), *Teaching and researching English accents in native and non-native speakers* (pp. 191-206). Heidelberg: Springer.

Sobkowiak, W. (1996). *English phonetics for Poles.* Poznań: Bene Nati.

Sobkowiak, W. (2002). English speech in Polish eyes: What university students think about English pronunciation teaching and learning. In E. Waniek-Klimczak, & J. P. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology: EFL perspective* (pp. 177-196). Frankfurt: Peter Lang.

Waniek-Klimczak, E. (1997). Context for teaching English phonetics and phonology at Polish Universities and Colleges: a survey. In E. Waniek-Klimczak (Ed.), *Teaching English phonetics and phonology II: Accents '97* (pp. 5-17). Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Waniek-Klimczak, E., & Klimczak, K. (2005). Target in speech development: learners' views. In K. Dziubalska-Kolaczyk, & J. Przedlacka (Eds.), *English pronunciation Models: A changing scene* (pp. 229-250). Bern: Peter Lang.

Waniek-Klimczak, E., Porzuczek, A., & Rojczyk, A. (2013). Affective dimensions in SL pronunciation: A large-scale attitude survey. In D. Gabryś-Barker, & J. Bielska (Eds.), *The affective dimension in second language acquisition* (pp. 124-137). Bristol, UK: Multilingual Matters.

Teaching English Phonetics with a Learner Response System

Małgorzata Baran-Łucarz, Ewa Czajka and Walcir Cardoso

Abstract Learner Response Systems (or *clickers*) have existed for over four decades (Judson & Sawada, 2002); however, only recently have they received careful consideration as tools to promote learning, particularly in large classrooms (Caldwell, 2007). Surprisingly, clickers are rarely used in the L2 classroom and, more surprisingly, the topic has not received careful attention from the L2 research community (Cardoso, 2011, 2013). This paper reports the results of an experimental study following a pretest–posttest design which aimed to examine (1) the effectiveness of teaching L2 English phonetics with clickers, and (2) the perceptions of Polish students towards the use of clickers in phonetics teaching. Fifty-six English majors studying at the University of Wrocław (Poland) participated in the study. While one group was taught the rules governing English lexical stress and differences between RP and GA with the use of clickers (Clicker Group), the other was presented the same content through PowerPoint (No-Clicker Group). The quantitative analysis of the data showed that in two cases (competence and recognition of RP/GA accents) the differences in progress made by the two groups were statistically significant. Moreover, the Clicker Group outperformed the No-Clicker Group in all but one of the tests included in the study. Regarding the learners' perception of the use of clickers in phonetics classes, the qualitative data (obtained via written open questions, questionnaires, semi-structured interviews, and class observations) revealed that learners perceive the technology as beneficial, as it provides an anxiety-free, interesting, exciting learning experience. Notably, it encourages involvement and active participation in the class, thus leading to better retention of the material. Despite the observed weaknesses (e.g., lack of personalized feedback), most participants stated that they would like clickers to be used systematically in their phonetics and other classes.

M. Baran-Łucarz (✉) · E. Czajka
Wroclaw University, Wroclaw, Poland
e-mail: m.baranlucarz@wp.pl

E. Czajka
e-mail: czajka.ew@gmail.com

W. Cardoso
Concordia University, Montreal, Canada
e-mail: walcir@education.concordia.ca

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_3

1 Introduction

The conferences on the didactics of foreign language (FL) phonetics that took place in Soczewka and Wąsosze (Poland) in the 2000s encouraged a number of researchers and teachers to reflect and share their experiences on how to make phonetics classes more effective and enjoyable for both learners and teachers. Several papers providing suggestions on this matter have been published in volumes containing the conference proceedings, edited by Professor Sobkowiak and Professor Waniek-Klimczak. While some were empirical in nature, reporting results of classroom-based observations on applying specific approaches, techniques, activities, experimental tools and materials, others were theoretical, focusing on evaluating resources available to FL teachers and learners.

From the papers published in the volumes of the series *Dydaktyka Fonetyki Języka Obcego* (*Didactics of FL Phonetics*), we could learn how to activate students in pronunciation and phonetics learning, making the process enjoyable at the same time. Sharing the premise that active participation and fun are factors facilitating the effectiveness of phonetics learning/teaching, Ciszewski (2004), Dłutek (2002), Pospieszyńska and Wolski (2002), and Zawadzka (2002) offered a number of ideas on designing warm-ups, game-like activities to practise the phonetic alphabet, and other practical tasks that could be used in a phonetics course. Among the papers in the series was one revealing students' perceptions of various activities performed in phonetics classes, particularly their attractiveness and effectiveness (Stasiak & Szpyra-Kozłowska, 2003). Not surprisingly, it was discovered that activities considered attractive by the students (e.g., based on songs, dialogues, tongue twisters and limericks) were also perceived to be the most effective. Another paper, written over a decade ago by Wrembel (2002), provided an overview of innovative approaches to teaching practical phonetics. Based on the ideas of Morley (1994), Wrembel claimed that, since fluency and accuracy support one another, pronunciation practice should not be limited to typical controlled form-focused exercises, but ought to be supported regularly by communicative, fluency-focused contextualized tasks. In agreement with other researchers, Wrembel also claimed that phonetics classes should be multisensory, i.e. they should cater to a variety of learning styles, and should also take into account the fact that progress is determined not only by intellectual skills but also by learners' emotions and personalities.

Among the papers in the series were also those evaluating materials used for phonetics teaching. For example, Sobkowiak (2003, p. 151) explained that what "may boost the metaphonetic competence (awareness, intuition) of foreign language learners in all areas of segmental and suprasegmental phonetics" are trivia of various kinds, such as texts and images from magazines, leaflets, advertisements, informal notes, graffiti, short message services (SMSes), emails, and the Internet.

Another major trend in these discussions was the role of technology in phonetics teaching. Some suggested how the language laboratory could be used in an innovative manner (Szpyra-Kozłowska et al., 2006) to develop the perceptive, productive and phonetic metacompetence of the students. Gonet (2004) proposed popularizing the acoustic analysis via visual display (e.g., spectrograms, waveforms) as a tool to facilitate pronunciation learning. Furthermore, Ferlacka (2006) showed how E-readers could stimulate the development of pronunciation, while others (e.g., Wrembel, 2004) offered overviews of software and websites that fostered the autonomous study of pronunciation.

We believe that the suggestions presented above are still valid and, accordingly, that students can benefit from phonetics classes if the affective filter accompanying learning is low, i.e. when the students do not experience anxiety, are motivated to participate, and find their classes interesting and clear. We cannot ignore that today's students employ numerous technological devices in most spheres of life, education being one of them. Considering this new reality, our study attempted to contribute to this scenario by proposing a technological tool that has the potential to enrich the teaching of phonetics: a *Learner Response System* (LRS), also known as *clickers*. Briefly, clickers are hand-held devices similar in size and appearance to a calculator which students can use in the classroom to respond to multiple choice or polling questions posed by the instructor (see forthcoming discussions). After the voting process, the responses are gathered by a receiver attached to a computer, tallied, and immediately projected on a screen for students and teachers to see.

Although LRSs have been widely available in many countries and educational settings, the technology has not received careful consideration by Polish educators. Based on previous studies on the use of clickers for the second language acquisition of vocabulary and grammar, as will be discussed in Sect. 3, we believe that clickers can also be beneficial for the teaching of phonetics and thus for developing students' phonetic competence in L2 English. As the literature indicates, clickers have the potential: (1) to increase student and teacher motivation and interest in the target content, and thus encourage engagement and participation; (2) to support different modes of instruction to cater to different learning styles (e.g., the tactile, physical nature of the voting process as well as the visual and auditory support afforded by the technology); and (3) to contribute to learning (e.g., by reinforcing the memorization of key concepts and symbols, and their applications in other contexts). One of the goals of this study is to examine whether the use of an LRS can contribute to the learning of two areas of English phonetics: the assignment of rule-based lexical stress and the characteristic features of Received Pronunciation (RP) and General American (GA) pronunciation patterns.

This paper reports the results of a mixed-methods experimental study in which the effectiveness of using clickers is compared to that of a group not using the technology. While the quantitative aspect of the study measured learning gains and learners' perceptions of the technology, the qualitative analyses examined the learners' opinions about the strengths and weaknesses of the tool, and their experience using the LRS system. The article starts with an introduction to the tool and a

review of the literature examining its pedagogical effectiveness in an L2 context. This is followed by a discussion of the methodology adopted and a report of the results obtained. Finally, the article ends with some general conclusions and directions for further research on the use of clickers in the teaching of phonetics.

2 Introduction to Learner Response Systems or *Clickers*

Learner response systems appear under a variety of names in the literature (e.g., audience response system, audience-paced feedback system, classroom response system, clickers, interactive response system, peer response system, student response system, wireless course feedback system, wireless keypad, zappers—see Cardoso, 2011). In this study, we will refer to LRS as "clickers", the most common term for this hand-held, mobile technology (see 2 in Fig. 1 for an illustration of a clicker—images used with permission from *Turning Technologies*). Although clickers have conceptually existed since the early 1970s, they have only recently been adopted as teaching/learning tools, probably due to the development of affordable computer-based technology and their use in popular TV shows such as Who Wants to be a Millionaire and Oprah. The system operates in the following way in standard classroom use:

(1) The teacher creates a question using the integrated software (usually a Microsoft PowerPoint® plugin or a stand-alone application for flexibility, used to poll on a browser or other presentation software). This is illustrated in 1 in Fig. 1.
(2) Students are then asked to select an answer by clicking on the corresponding button on the clicker's keypad (2 in Fig. 1).

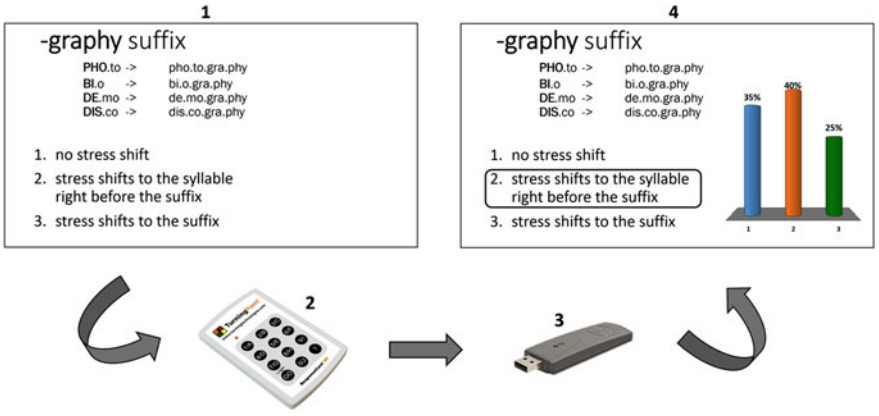


Fig. 1 Clickers: modus operandi

(3) During the polling period, students' responses are sent wirelessly to a USB-based receiver connected to a computer (3 in Fig. 1). The integrated plugin software (described above) conducts descriptive statistics such as percentage distribution, mean, standard deviation, and variance, all of which can optionally be shared with the students. The teacher may also decide to include a timer to ensure that learners are aware of how much time there is to vote.
(4) Once the voting period is closed, the system displays the results of the activity, which are shared with the students and the teacher via projection on a screen. The typical result of a clicker-based activity is illustrated in 4 in Fig. 1, where we observe the correct answer (indicated by a rectangle), a chart representation of the percentage distribution of the responses, and other statistics deemed relevant by the teacher.

This process, particularly the results, has interesting pedagogical applications. Firstly, the students receive immediate feedback about their responses and how their performance compares to that of others. Secondly, the teacher can determine whether students understood the concept being discussed and, accordingly, make decisions on how to proceed: either go forward with the content material (in case the majority of the students select the correct answer), or engage the students in general discussions and/or peer instruction activities such as convince-your-neighbour activities, as recommended by Mazur (1997).

The current study was motivated by two intrinsic affordances of clickers and the associated pedagogy, i.e. the technology provides immediate feedback to both students and the instructor, and it fosters an environment in which interaction and peer-instruction are inherent. Although the efficacy of immediate feedback is still not clear (Ellis, 2009), L2 researchers recommend it because teachers and learners are more likely to take advantage of the cognitive "window of opportunity" for learning to take place (Doughty, 2001). With regard to peer instruction, research in general education (e.g., Fagen et al., 2002; Mazur, 1997) and in second language education (e.g., Liu & Hansen, 2002; Philp et al., 2013) suggest that this type of instruction can be beneficial for learning, particularly when students have opportunities to work collaboratively with peers and to improve their abilities individually, thus becoming more autonomous (Murphy & Jacobs, 2000). The benefits of these affordances for the acquisition of a second language are still unclear, as will be discussed in the following section.

3 Clickers and Second Language Teaching/Learning

The use of clickers has been investigated in various academic fields such as geography (Oigara & Keengwe, 2013), mathematics (Stewart & Steward, 2013), music (Hartman, 2012), nursing (Bristol, 2011), and general education (Blood & Gulchak, 2013; for full references and a list of relevant studies, see Cardoso, 2011). Overall, the existing research has reported that teachers (Fies & Marshall, 2006;

Kaleta & Joosten, 2007) and students (Barnett, 2006; Kaleta & Joosten, 2007) have positive attitudes towards using clickers in these educational settings. Briefly, the studies show that a clicker-based class has the potential to (1) increase student and teacher motivation and interest in class, (2) encourage student engagement and participation, (3) provide immediate feedback to both the teacher and students (e.g., understanding of the subject of discussion, self-assessment, performance comparison with their peers), and (4) contribute to learning.

Despite the encouraging results observed in the clicker literature, the tool is still understudied in second language pedagogy (Cardoso, 2011, 2013). One of the first SLA studies to appear, Cutrim Schmid (2007, 2008), examined the pedagogical benefits of LRS using the ACTIVote System (a component of the Promethean Interactive Whiteboard). In these studies, the author found that the use of clickers increased peer interactivity, self-assessment and peer collaboration, and improved learners' self-esteem.

A more recent study by Cardoso (2011) examined students' perceptions of the use of clickers for vocabulary acquisition in an advanced L2 classroom setting. Data were elicited via a questionnaire survey and open-ended oral interviews in which participants reported their opinions on the strengths and weaknesses of using clickers. Overall, students perceived their experience with using clickers positively, providing favorable ratings for increased motivation, participation in the class, and opportunities for self and peer assessment.

Similar results were also obtained in a study by Giridharan (2013), who investigated whether ARS-keypad technology (a variant of the one adopted in this study) could be used as an interactive tool for vocabulary recognition tasks to develop a higher level of interaction in the classroom. The author found that the use of the voting system made learning more enjoyable and beneficial than the application of more traditional teaching aids, stimulated discussions of the vocabulary choices displayed on the presentation, and encouraged peer discussions in and outside of the classroom.

Looking at clickers as a tool to provide feedback, Serafini (2013) investigated learners' perceptions of the use of clickers as a source of immediate feedback in the L2 Spanish classroom. Via the use of questionnaire responses, the author concluded that learners' perceptions regarding the clicker system's effectiveness were highly positive, particularly when the feedback was provided with an enhanced visual (not merely textual) display.

The only study that examined the use of clickers from an L2 instructor's perspective was Agbatogun (2011). Using self-report questionnaires and semi-structured interviews, the author investigated the effects of a number of teacher-related variables (e.g., teachers' perceived usefulness, general computer knowledge) on the use of clickers in an ESL environment. The results showed that there was a significant relationship between computer literacy and computer use on teachers' positive attitudes towards clickers.

To summarize, clicker-based technology is generally perceived as a tool that increases learners' motivation, encourages more active participation in the class, allows learners to self-assess their target language skills, assists students in

verifying their standing amongst peers, and fosters interactions. However, the existing data do not show whether the use of clickers in the classroom actually facilitates learning (e.g., whether it leads to an improvement of specific L2 features). It is one of the goals of this study to shed some light on this problem.

4 Methods

To examine the effects of using clickers in a phonetics course, and to diagnose students' perceptions of using this technology to learn about English pronunciation and phonetics, an experimental study was carried out with English majors at a Polish university during a 3-month period in 2014. Two topics were chosen as learning targets: (1) a set of rules governing word stress assignment in English (e.g., stress rightward shift as in PHOto → phoTOgrapher, where capitalized syllables indicate primary stress); and (2) pronunciation features that characterize RP and GA (e.g., the use of rhotics in coda position in GA and its absence in RP). The rationale for selecting these features were two-fold. Firstly, they are included in the participants' curriculum for the phonetics course. Secondly, these features are usually rated as very important by Polish EFL learners, either because they are problematic to acquire (e.g., Sobkowiak, 1996 for English lexical stress), or because they are considered important for international communication and intelligibility (e.g., awareness of RP and GA features and of other native and nonnative accents). We adopted a pretest/posttest/delayed posttest design, with different treatments for the two groups involved. While participants of the Clicker Groups received clicker-based treatment, members of the No-Clicker Groups were taught the exact same content via PowerPoint only (the tool that is also used in clicker-based activities, as discussed earlier and illustrated in Fig. 1), without the clickers. In sum, the use of a response system was the only differential variable between the two experimental groups.

Accordingly, this study asked the following research questions:

RQ1: Does the use of clickers lead to better learning outcomes in phonetics learning than the use of PowerPoint without clickers?
RQ2: What are the students' attitudes towards the use of clickers in learning phonetics?
RQ3: What are the students' perceived advantages and limitations of using clickers in a phonetics class?

Answers to the first question were based on the results of the quantitative experimental part of the study, which enabled the comparison of actual gains in the learning of lexical stress and the RP/GA features made by the Clicker and No-Clicker Groups, directly after the treatment (Posttests 1) and one week later (Posttests 2). The immediate and delayed posttests were to show if the potential benefits resulting from the use of clickers were short-term and/or long-term. The second and third questions were addressed via the use of questionnaires and written

open-ended interviews, as will be clarified in the following section. It was hypothesized that the results would reflect those found in previous studies and that the perceived learning gains reported in the literature would be confirmed when objective measures of acquisition are taken into consideration.

4.1 Participants

The study was carried out among two groups of stationary and two groups of extramural first-year students at the Department of English Studies, University of Wroclaw, Poland. Although each group consisted of 12–20 learners, not all of the students participated in each of the data-collection phases. Thus, the total number of learners who took part in the experimental lessons and completed all the tests was limited to 56 in the case of the RP/GA class (28 stationary students and 28 extramural learners) and 37 in the case of the word stress class (20 stationary and 17 extramural students). While the full-time stationary students represented a higher level of proficiency in English (C1/C2, according to the Common European Framework of Reference), most of the extramural learners were of a lower proficiency level (B2/C1). With regard to the participants' L1 background, the majority of the students were Poles, with the exception of two - one from Belarus and one from Croatia. 70 % of the subjects were female. By the time the experiment was launched, all students had completed one semester of phonetics. However, while the extramural students had taken nine 90-min classes in phonetics, the stationary students had taken fifteen 90-min classes in the previous semester. Although participation in the study was not obligatory, and the learners could withdraw at any point of data collection, none of them objected to take part in the research, consenting to the publication of the gathered data and results of the analyses. The subjects were informed that the collected data were confidential, anonymous and would be used for scientific purposes only.

4.2 Procedures

Throughout the study, there were three data collection stages. First were language pre-tests, i.e. the Word Stress Test and RP/GA Test. The aim of the pre-tests was to measure the level of students' competence, performance and accent recognition skills before the treatment (so that comparison with posttest data could be made), and to ensure that the levels of the two experimental groups were comparable at the outset of the experiment. The treatment phase took place after the pre-test data were collected. The first treatment consisted of presenting the rules governing the English word stress to all four groups. While one of the extramural groups received clicker treatment (i.e. a combination of PowerPoint and clicker-based interactions), the other received instructions via PowerPoint only. Analogously, one stationary group

was provided with clicker-based classes, while the other received PowerPoint-based instruction. The same scheme was repeated in the case of the second lesson, devoted to differences between RP and GA. This time, however, the groups that used PowerPoint and clickers were reversed (i.e. those who had been taking part in the clicker-based treatment switched to a PowerPoint-based learning environment and vice versa). The rationales for this decision were the following: first, it ensured that all participants would have a chance to experience the two different types of treatments; second, it circumvented the influence of class differences (e.g., students in one class could have higher motivation to learn due to a variety of internal and hard-to-control factors such as the temperament of the teacher, class time, etc.). Finally, it served to reduce a potential *Novelty Effect* (Clark, 1983), in which one would expect the Clicker Group to outperform the No-Clicker Group simply because the students and teachers were engaged in using a new technology.

The study was conducted by two English teachers (the first and second authors of this paper), one of whom prepared and ran the classes on word stress both in the extramural and stationary studies (one with clickers and the other without the technology), and the other on the differences between RP and GA (one with clickers and the other without the technology). While one of the researchers taught, the other observed students' behavior and involvement in the class. Once the treatment was over, after a 5-min relaxing puzzle activity, the participants took Posttest 1 (immediate posttest). One week later, the learners took Posttest 2 (delayed posttest). To eliminate the chance of the participants studying at home, and to observe long-term effects of the usage of the two tools, they were not informed about the existence of a new set of tests in advance.

The participants were asked to choose and use a nickname or date of birth consistently in all tests, so that they could remain anonymous throughout the study. This was believed to not only lower the affective filter of the learners, but also to raise the validity and reliability of the measures, by discouraging students from cheating on the test. To reduce test anxiety among the learners and encourage involvement in the experiment, no credit was given for any of the tests.

4.3 Instruments

Two types of measures were designed for the purpose of the present study, i.e. (1) objective measures of participants' phonetic/phonological competence and performance, and (2) questionnaires targeting the subjects' attitudes towards and perceptions of the use of clickers (Clicker Groups) and PowerPoint (No-Clicker Groups) for phonetics teaching. The data provided by the students were supplemented by results of observations carried out during the treatment. Finally, the responses of the participants in the questionnaire were verified via semi-structured interviews. All the instruments applied in the research are described more thoroughly below.

4.3.1 Word Stress Test

The Word Stress Test (WST) was composed of two parts—a competence test (WST-C) and a performance test (WST-P). The first part took the form of a pen-and-pencil test, consisting of a list of 39 multisyllabic words on which the students had to mark the primary stress placement. The students specified if they were providing the American (GA) or British (RP) version of the pronunciation of word stress. Among the vocabulary items were words that Poles frequently misplace word stress on. The list was based on Sobkowiak (1996), Celce-Murcia et al. (1996) and Szpyra-Kozlowska (2012). It included words with *-ic*, *-graphy, -ous, -ese* and *-ee* suffixes, words of French origin, words stressed differently in GA and RP, long words with preantepenultimate stress as well as words with unpredictable stress patterns. All the words which appeared on the test were presented and practised during the lesson.

The second part—WST-P—consisted of an analogous list which the students read aloud. Their performance was recorded on SONY Digital Flash Voice Recorders (ICD-UX523). In both parts of the WST, correct answers were assigned 1 point, while the incorrect ones received 0 points. The test was distributed three times, as a pretest, immediate posttest (Posttest 1) and delayed posttest (Posttest 2). Each time the testing format was the same, with the maximum score to achieve being 39 points. However, in the case of the posttests, some of the words from the pretest were replaced by other lexical items that represented the same word stress rule. The students were given 10 min to complete the test on all three occasions (i.e. on the pretest and two posttests).

4.3.2 RP/GA Test

The second language test addressed the differences between the two models of English pronunciation, i.e. RP and GA. Its main role was to diagnose the students' competence (CT) in this area (RP/GA-CT). However, it also aimed to measure the learners' ability to recognize (RT) the two varieties before and after the treatment (RP/GA-RT).

Four different elicitation techniques were used in the competence part of the test:

- true/false statements (10 items)
- transcriptions of RP and GA (7 items: *hot*, *path, bought, tomato, dark, leisure, schedule*)
- lexical stress marking (7 items: *ballet, dictionary, laboratory, vibrate, necessarily, massage, address*)
- multiple-choice items (7 items, with 3, 4 and 5 options)

All of the tasks addressed the aspects presented and practised during the lesson, i.e. rhoticity, pronunciation of /r/ and /l/ in the two varieties, yod-dropping, flapping, glottalization, differences in vowel production (particularly the following RP and GA alternations: /ɑː/-/æ/; /ɒ/and /ɔː/-/ɑː/, pronunciation of the suffixes *-ile* and *-ate,* differences in word stress, and the pronunciation of a set of words in GA and RP).

Let us now discuss the scoring procedures of the competence test. In the case of true/false statements and multiple choice questions, 1 point was awarded for correct responses. In the remaining tasks, 1 or 2 points were provided for each word in the RP and GA version, depending on whether the difference between the accents was in one or two areas. For example, while 1 point was given for proper RP transcription in the case of *bought* (transcribed with /ɔː/) and 1 point for GA (transcribed with /ɑː/), 2 points were awarded for the correct transcription of *leisure* in RP and 2 points for GA, since the pronunciation in these English varieties differs in two features, i.e. vowel quality and rhoticity. The content of the test was exactly the same on the pretest and the two posttests. However, the order of the statements in task 1 and the order of the options in the multiple-choice task was not identical on the three tests. The maximum number of points that could be achieved for the competence test was 57.

The recognition part of the measure (RP/GA-RT) consisted of participants listening to eight words (*ladder, mobile, turn, dictionary, thought, apartment, dance, hop*) and four 16-s-long fragments of conversations produced by native speakers representing either an RP or GA accent, and identifying the accent. While the recordings of vocabulary items were downloaded from FORVO (pl.forvo.com), the samples of longer conversations were taken from dialectblog.com. The words and texts were played twice, each time with a 2-s pause between them. As before, the items were ordered differently on each of the three occasions. For this test, the participants could score a maximum of 12 points. After the recognition task was finished, the students were given 15 min to complete the competence tasks of the RP/GA Test.

4.3.3 Measurement of Students' Attitudes

The first instrument designed to collect the opinions of participants on their use of clickers in a phonetics class was a pen-and-pencil test (Written Measure of Students' Attitudes) composed of two parts. Part 1 took the form of two open-ended questions inquiring about the advantages and disadvantages of using clickers in a phonetics class, followed by an invitation to share any feelings and ideas related to the use of clickers in teaching. The questions were written both in English and the students' mother tongue, thus giving the participants an opportunity to respond in either of the two languages.

Part 2 of the WMSA (see Appendix 1) was a 28-item questionnaire with a 5-point Likert scale. To a large extent, it was based on an earlier instrument designed and used in a previous study (Cardoso, 2011; see Sect. 2). However, since the students participated in two treatments—one with clickers and one without—the items on the questionnaire reflected the pedagogical nature of each treatment. The participants were asked to rate the extent to which they agreed/disagreed with a set of statements that addressed several aspects of the learning/teaching process using the respective technology (e.g., the students' level of interest and involvement in the

class, eagerness to interact with other students and answer questions posed by the teacher, clarity and pace of the lessons, students' level of anxiety and embarrassment).

The questionnaire was written in English; however, in the case of a few items, the Polish translation was provided in brackets. To eliminate the risk of some items being misunderstood, the students were asked to browse through the statements before filling out the questionnaire to ensure that all the sentences were clear to them. It is important to stress that the order in which the two parts of the WMSA were filled out by the subjects was not accidental. It can be hypothesized that a reverse order might have affected the students' responses to the open questions by priming or encouraging them to address the statements included in the WMSA questionnaire. The participants completed the two parts of the WMSA in approximately 15 min.

Another measure used to discover what the participants thought about the use of clickers was individual interviews, consisting of general open-ended questions about their feelings and opinions about the technologies used in their classes. These audio-recorded semi-structured interviews were conducted after the oral part of the WST in the delayed posttest.

Finally, as explained earlier, the participants' attitudes towards the use of clickers and PowerPoint were also verified by class observations. While one of the researchers was running the class, the other focused on the reactions and behavior of the students, taking down symptoms of enthusiasm, excitement, boredom, strain, discomfort, anxiety, and hesitation as the lesson proceeded.

4.4 Treatment

Since there were two teachers running the experimental classes and two different topics presented to the participants (lexical stress and RP versus GA pronunciation), it was essential that the main principles governing the implementation of clickers and PowerPoint during the lessons were adhered to. Thus, the researchers took great care to cooperate with each other when designing the lesson plans and working on the pedagogical materials.

Although the participants were used to PowerPoint presentations in other courses at their university, they had never used clickers in their classes before. The earlier phonetics classes were significantly practical in nature, based on several controlled reading and imitation tasks carried out in various grouping arrangements, with the use of other audio-visual materials complemented with problem-solving exercises and communicative activities.

Each of the experimental lessons lasted 90 min. They started with warm-ups consisting of a reading task, with which the students were familiar. After introducing the aim of the lesson, the teachers proceeded to the presentation of the material prepared using PowerPoint slides. To avoid technical problems and to

ensure that the participants knew how to use the technology, a dry-run was conducted with the students in the Clicker Group. After approximately 40 min, a brief filler-in task was offered, e.g. a task consisting in listening to a song to identify lexical stress on some words and/or the accent. The experimental phase ended with the posttest, which was preceded by a 5-min relaxing task.

It is important to note that the contents of the presentation slides in the two groups were identical. Moreover, in both experimental groups, the teachers employed an inductive approach to teaching, encouraging the students to be active and cooperative in hypothesizing and discovering the rules governing word stress or features of RP/GA, based on several examples and discussions with their peers. The only variable that differentiated the two groups was the use of clickers in the Clicker Group, where participants voted for answers by using clickers, saw the distribution of answers on bar graphs and, finally, learned what the proper answer was (see Fig. 1 in Sect. 2). These voting activities were usually followed by peer interaction and oral practice (e.g., imitation and/or reading aloud in chorus or individually). As mentioned earlier, similar adaptation strategies were adopted in the No-Clicker Group. However, instead of clickers, the participants were asked to raise their hands or vocally state an alternative as a vote when questions were raised by the teacher. While the correct answer for each question was provided clearly on a separate slide, the distribution of the participants' responses was not possible due to the limitations of standard PowerPoint technology.

4.5 Findings

4.5.1 Presentation and Discussion of Quantitative Data

Once the data were collected, a thorough analysis was carried out. First, the descriptive statistics for the language tests were computed. Their interpretation allowed us to verify the assumption of normal distribution. Secondly, t-tests were used to examine whether the differences between the achievements of the Clicker and No-Clicker Groups were statistically significant.

4.5.2 Results of the Word Stress Test

Since the outcomes of the stationary and extramural students on the word stress pretest did not differ significantly, the decision was made not to analyze the data in separate groups, but to treat them as similar instead. The descriptive statistics implied that in none of the subcomponents of the WST taken on the three occasions was the normality distribution assumption violated. This allowed us to proceed and calculate independent t-tests. The descriptive statistics and results of the t-tests computed for the WST are presented in Table 1.

Table 1 Descriptive statistics for word stress test; results of the independent two-tailed t-test

		Mean		Progress mean		Median		SD		Low–high		t-test p (df)	
		Competence (max = 39)	Performance (max = 39)	Competence	Performance	Competence	Performance	Competence	Performance	Competence	Performance	Competence	Performance
Pretest	Clickers (n = 20)	22.3	21.06	–	–	22	21	6	4.82	13–33	13–30	0.32 (35)	0.55 (35)
	No-clicker (n = 17)	24.06	22.53	–	–	23	21	4.52	4.61	17–32	15–30		
Posttest 1	Clickers	31.25	27.7	8.95	6.1	9	6.5	3.95	2.77	3–15	0–11	0.91 (35)	0.37 (35)
	No-clicker	32.88	27.71	8.82	5.18	9	5	2.88	3.28	4–14	0–12		
Posttest 2	Clickers	27.6	27	5.35	5.4	5	5	4.13	3.36	−7–13	−1–12	0.30 (35)	0.42 (35)
	No-clicker	30.88	26.94	6.76	4.41	6	4	4.04	3.92	1–15	−3–12		

Although the No-Clicker Group revealed a higher level of performance in word stress competence than the group taught via clickers before the treatment, the difference was not statistically significant. The result permits us to compare the progress made in the two groups after the treatment. The mean scores for the pretest suggest that the participants were not aware of many of the rules governing word stress in English, and that there was a lot of room for improvement in this area.

It is important to clarify that while in the pretest the descriptive statistics were computed for the actual pretest mean scores, in the posttests they were calculated for the progress mean scores and not for the mean scores themselves. The progress of the participants was calculated by subtracting their scores achieved on the two posttests from the scores obtained on the pretest. When estimating the p-level of the t-tests, we considered the progress scores (SD and means) only.

Focusing on the *t*-test results of the two posttests, it was observed that the amount of progress both at the competence and performance level made by the Clicker and No-Clicker Groups directly after the treatment and one week later did not differ significantly. However, it is important to point out that in Posttest 1, the progress made by the Clicker Group was higher than that of the No-Clicker Group both in competence and performance. An analogous pattern can be observed in the case of the performance part of Posttest 2. It is only when the progress in competence in Posttest 2 is concerned that the No-Clicker Group outperformed the Clicker Group. A visual representation of the amount of progress made after the treatment by the two groups is provided by Fig. 2.

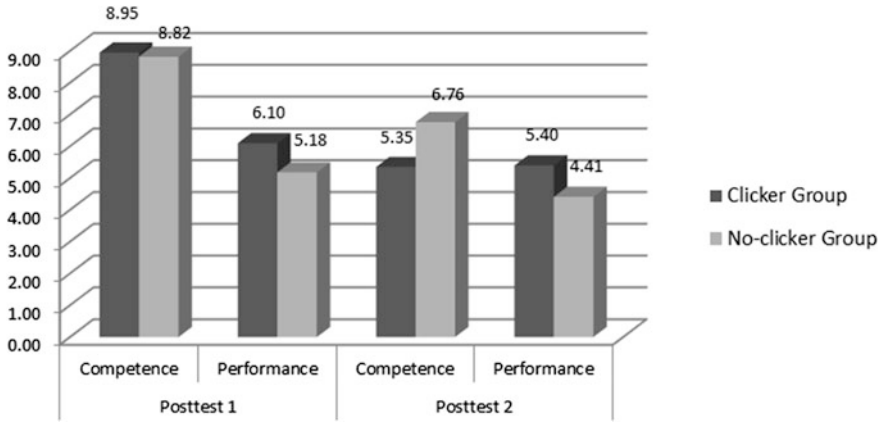


Fig. 2 Progress made by the Clicker and no-clicker groups immediately after treatment (Posttest 1) and one week after treatment (Posttest 2)—word stress

A possible explanation for why the No-Clicker Group showed a higher level of competence in Posttest 2 was raised by the observing (non-teaching) researcher. As she reported, in the Clicker Group, only two learners were taking notes during the presentations (possibly due to the nature of the activity in which learners had a non-writing device in their hands); on the other hand, more than half of the participants in the No-Clicker group took notes. Even though the participants were not aware of a second posttest, it is possible that they looked at their notes before Posttest 2. It is also likely that note taking reinforced memorization and, accordingly, the recall of the newly acquired forms was facilitated during the completion of the delayed posttest.

4.5.3 Results of the RP/GA Test

Analogous procedures were followed for the analysis of RP and GA features. Because the basic features of the two accents had already been presented to the stationary students, they revealed an evidently higher level of competence in this area than the extramural learners. Representing a lower level prior to the treatment, the extramural students were inherently able to make more progress than the stationary learners. Consequently, the decision was made to analyze the outcomes of the stationary and extramural students separately. Although the participants demonstrated low knowledge of many RP/GA features at the pretest, their ability to recognize the two accents was not as low as their competence, which suggests that the two may not be strongly related. It is also possible that the higher scores resulted from the elicitation technique used in this task, which provided the learners with a 50 % chance to guess the correct answer, i.e. either RP or GA. The descriptive statistics and results of the *t*-tests are displayed in Table 2.

As the descriptive statistics indicate, the scores for the competence and recognition parts of the GA/RP test were normally distributed at all phases of data collection. The pretest means of the two groups were found to be statistically insignificant for both the stationary and extramural studies.

With regard to the *t*-test results for the posttests, the differences between the progress made by the Clicker and No-Clicker groups were statistically significant in two cases: in the recognition part of Posttest 1 (stationary studies) and in the competence part of Posttest 2 (extramural studies). Although the differences in learning gains in the other categories were not significant, a clear tendency emerged: in all cases, the Clicker Group showed higher progress than the No-Clicker Group. This pattern can be more easily traced in Fig. 3.

Table 2 Descriptive statistics for results of the RP/GA test; results of independent two-tailed t-test

			Mean		Progress Mean		Median		SD		Low – High		t-test p (df)	
			Conpetence (max=57)	Recognition (max=12)	Conpetence	Recognition	Conpetence	Recognition	Conpetence	Recognition	Conpetence	Recognition	Conpetence	Recognition
Stationary students	Pretest	Clicker (n=12)	30.62	8.33	-	-	27.50	8.50	6.00	2.30	25.5 - 44	4 – 12	0.89 (26)	0.09 (26)
		No-Clicker (n=16)	30.31	10.12	-	-	29	10.50	5.75	1.31	21 - 42	8 - 12		
	Posttest 1	Clicker	44.75	10.50	14.12	2.17	14	2.50	5.38	1.85	4 - 22	-1 - 5	0.27 (26)	**0.01*** (26)
		No-Clicker	41.87	10.6	11.56	0.44	11	0.50	6.60	1.41	-1 - 26.5	-3 - 3		
	Posttest 2	Clicker (n=11)	41.18	9.73	10.14	1.54	10	1.00	5.00	1.86	2 - 17	-1 - 6	0.26 (20)	0.08 (20)
		No-Clicker (n=11)	38.32	10.09	7.50	-0.09	6	0	5.77	2.26	-1 - 19.5	-6 - 2		
Extramural students	Pretest	Clicker (n=12)	18.58	8.91	-	-	17.50	9.00	5.42	1.98	10 - 28	5 – 12	0.50 (26)	0.75 (26)
		No-Clicker (n=16)	19.62	9.12	-	-	20.50	9.00	4.57	1.20	5 - 12	7 – 11		
	Posttest 1	Clickers	31.21	9.58	12.63	0.67	12.85	1.56	8.44	1.56	-2.5 - 24	-1 – 5	0.27 (26)	0.22 (26)
		No-Clicker	28.37	8.75	8.75	-0.60	9.10	0.00	8.00	1.48	-5 - 29	-3 – 3		
	Posttest 2	Clicker	32.67	9.50	10.50	0.58	10.00	0.00	5.00	1.62	2 - 17	-1 – 4	**0.05*** (26)	0.82 (26)
		No-Clicker	27.94	9.56	7.50	0.44	6	1.00	5.77	1.79	1 - 24	-3 – 3		

* indicates high level of significance

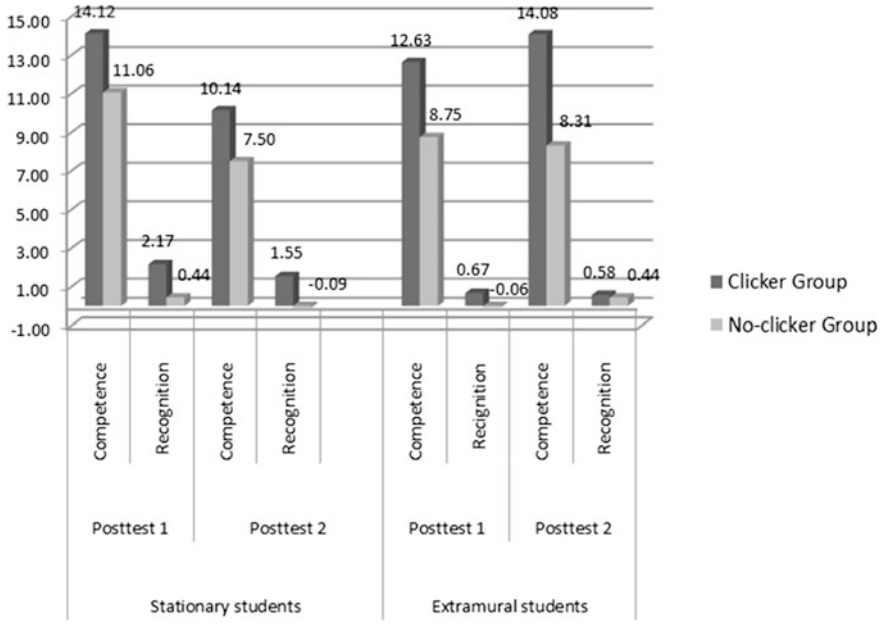


Fig. 3 Progress by the two experimental groups in the posttests: RP/GA features

4.5.4 Presentation and Discussion of Qualitative Data

The qualitative data concerned the participants' subjective opinions and attitudes on the use of clickers in a phonetics class. They included brief entries from class observations, outcomes of the two-part pen-and-pencil battery, and the data gathered from semi-structured interviews.

4.5.5 Class Observations

Evident differences were noticed in the behavior and reactions of students participating in the two experimental groups. Although in both classes the teachers tried to encourage the students to be actively involved in the lesson, in the case of the No-Clicker group, the attempt was not always successful. Among the most frequent tasks in both lessons was hypothesis-making and sharing ideas on the problems to be solved concerning the rules governing word stress and features of RP and GA. The students taking part in the No-Clicker group, despite being given a chance to discuss answers in pairs or groups, were not always eager to cooperate and vote (e.g., by raising their hands or stating their selection orally). There were some students who never voted, staying silent during most of the class. It was also noticeable that those who provided incorrect responses felt embarrassed or frustrated, and were discouraged to provide responses to further questions. Signs of

disinterest and lack of concentration were also observed, particularly towards the end of the lesson (e.g., participants playing with mobile phones, looking out of the window or yawning). It is also important to add that in the No-Clicker Group, most of the students engaged in note-taking during the class.

Regarding the clicker-based lesson, enthusiasm, laughter and interest was observed, particularly at the first 30 min of the class. Throughout the whole lesson, the students seemed to be relaxed and entertained, taking particular joy from voting correctly. '*Yes!*' or '*I knew it!*' are examples of typical reactions to feedback on their answers. Moreover, they seemed to be highly concentrated on the lesson and eagerly discussed the answers with their classmates before voting. Although a few students were trying to take notes, they usually gave up towards the end of the lesson.

4.5.6 Results of the Written Measure of Students' Attitudes—Part 1: Open Questions

As explained earlier, two open-ended questions were used to explore the perceptions of students on the use of clickers. The first concerned the advantages of using clickers during phonetics classes. The most popular strength reported was that clickers helped reduce anxiety and embarrassment in answering questions, as indicated by 67 % of the subjects. One of the students, for example, stated, '*I did not have to worry about making a mistake and ridiculing myself in front of others; at the same time I knew I had made a mistake and could learn something new.*' Along the same lines, about 10 % of the respondents wrote that they liked the idea of being anonymous during the voting process. Another advantage mentioned frequently by the participants (48 %) was that '*clickers facilitate active participation in the lesson and get everybody involved in it.*' Many students (41 %) praised the tool for the possibility of providing respondents with immediate feedback, and giving the learners a chance to compare their abilities with that of their classmates. Moreover, the students found it beneficial that '*the teacher could adjust the next steps in the lesson to the needs of the learners, e.g. come back to an issue that appeared to be misunderstood by the students.*' Moreover, 30 % of the participants believed that the clickers facilitated memorization of the new material, due to active participation and the level of concentration that the related activities required. Here are a few examples of students' entries on this particular theme:

- I liked the class. It forced my mind to work hard …;
- Clickers helped me memorize due to visual support;
- We can learn more. It is easier to memorize rules, e.g. about word stress;
- I remembered better if I made a mistake;
- We have to think on our own, without waiting to see and being affected by how other students respond. Probably we remember then better.

Additionally, 11 % claimed that clickers helped them stay focused on the lesson, e.g. '*A very effective way of captivating students' attention.*' 33 % of the subjects

wrote that the classes were particularly interesting, 20 % found them clear, while 30 % described them as fun, attractive and/or exciting, e.g. '*It was great fun and exciting!*' One of the subjects made the following remark: '*The class was much more interesting. It turns out that education even at tertiary level can be fun and cool. I'm sure all were interested in the class.*' Some other positive remarks included:

- A nice change!;
- I loved it. I wish more teachers would use them, especially during lecture type of classes, to increase our participation;
- It would be great to use clickers at every class.

The students were also asked to voice their opinions on the weaknesses of using clickers in their phonetics classes. Although the question was, for the most part, left unanswered or with comments such as '*I see no limitations*' or '*I don't think there are any*', 19 % of the subjects did provide negative responses. Some of these responses (5 students) related to the fast pace of the presentation; e.g. '*There was no time to take notes*'. Other learners were concerned about the following issues:

- Technology may not always work;
- It must be difficult for the teacher to prepare such presentations. Probably they're not cheap either;
- It can be boring to use them during every class;
- Less interaction than at regular classes;
- Less production than usually.

The last two remarks are probably due to these learners' experience with previous phonetics classes, in which there was intensive controlled and meaning-focused oral practice, with limited exposure to theory. Finally, the participants indicated that the anonymity of the system may not always be perceived as a positive feature:

- After some time the motivation to provide an answer drops. Nobody can tell that I'm the one not responding or that I'm responding incorrectly, so I can provide any answer;
- On one hand I like the idea that nobody knows how I am responding. On the other—I wish the teacher knew I gave the incorrect answer and could give me personalized feedback.

These comments suggest that clickers are not an end-all-be-all alternative to traditional teaching, and that the process depends on a variety of individual differences (e.g., learning style, degree of motivation, personality).

4.5.7 Results of the Written Measure of Students' Attitudes—Part 2: Questionnaire

Figure 4 illustrates the results of the survey questionnaire (see Appendix), in which the participants shared their opinions and attitudes towards the use of clickers in comparison with an exclusive use of PowerPoint (No-Clicker). The results indicate

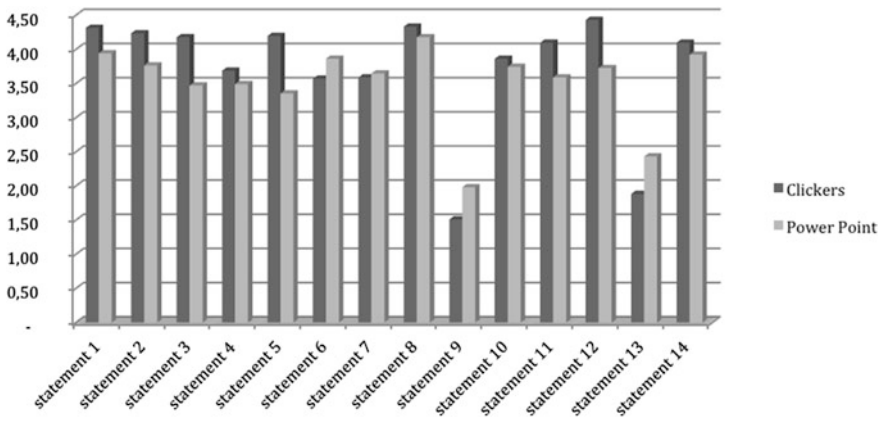


Fig. 4 Results of the written measure of students' attitudes—part 2

that both teaching tools were assessed positively by the learners. However, in most statements, the mean values were higher for the Clicker-based experience. The means for the majority of answers referring to clickers usually ranged from 4.18 to 4.43, where '*4*' stood for '*agree*' and '*5*' for '*strongly agree*'. It is only in four items (*4*, *6*, *7* and *10*) that the means were somewhat lower, with the lowest being 3.59. It is important to note that the questionnaire included two negative items (*statements 9* and *13*), enquiring directly about whether the classes were considered boring and anxiety-generating. In these items, the mean values were 1.51 and 1.88, respectively, where '*1*' stood for '*strongly disagree*' and '*2*' for '*disagree*'.

These results reveal that in the eyes of the participants, clickers have many advantages, including the potential to increase the learners' interest (*statements 1*, *2* and *9*) and active participation in the lesson (*statement 3*). The students taught with clickers claimed that they felt more inclined to answer questions posed by the teacher (*statement 5*), that the lessons conducted with clickers were clearer (*statement 8*) and better-paced (*statement 10*) than the classes taught without the LRS. Furthermore, the participants claimed that they were more relaxed, less anxious or embarrassed during the class with clickers (*statements 11 and 13*), and rated it as being more enjoyable than the No-Clicker class (*statement 12*). Finally, the learners acknowledged that they would like clickers to be used regularly in their phonetics classes (*statement 14*).

There were two statements (*6* and *7*) on which clickers were rated slightly lower. These items concerned students' opinions on whether they thought clickers might help them understand and foster their ability to remember the content of the lesson. Many of the participants chose the '*neutral*' answer, suggesting that they are skeptical about clickers being able to affect their learning outcomes. Interestingly, the quantitative data discussed earlier seem to imply that using clickers as a pedagogical tool can indeed facilitate learning.

4.5.8 Semi-structured Interview

At the end of the study, 50 % of the students (every second subject coming to the oral WST) were interviewed for their opinions of the use of clickers in their phonetics classes. The answers supported the responses provided in the *Written Measure of Students' Attitudes*. The participants' comments on their experience included the following:

- I enjoyed it;
- Students usually feel discomfort when answering questions. With clickers they were absolutely stress-free;
- It was great that you could see the results and that the teacher could react straight away if many students answered incorrectly;
- I could compare my competence with that of other students, without feeling stressed;
- It made me active. Usually this is difficult to achieve in my case.

Moreover, a few participants believed the use of clickers had a positive influence on their actual learning gains and the process of learning, e.g.:

- I think I learnt a lot;
- That was fun. I think I remembered more thanks to it.

Although the students were not asked directly about the class in which Power Point without clickers was used, one of them said:

- Please don't take it personally… I'm really enjoying the course, but didn't feel like voting today. I could see everybody looking at me and that was a strong 'demotivator'.

5 Conclusions

Although learner response systems have been the topic of many studies in different parts of the world (e.g., Canada, Great Britain, Spain, United States of America), to the best of our knowledge, the technology has not received careful attention in the Polish academic community. In the context of second language acquisition, as discussed earlier, the field is still in its infancy if the handful of available studies is any indication (Cardoso, 2013). Although clickers have been adopted for teaching different disciplines at the post-secondary level, it has not been used in the context of a phonetics course. The study reported in this paper was an attempt to fill these gaps.

In our study, the performance and competence of participants in the Clicker and No-Clicker groups was compared via t-tests. Although statistically significant differences in immediate and delayed posttests were found only in two cases, a clear tendency emerged in the two posttests, suggesting that the students taught with clickers usually learned more than those instructed without them. Interestingly, after the word stress class, the higher progress of the Clicker group was visible in performance (i.e. when reading aloud a list of words), but not in competence (i.e. when marking word stress in a written test) in both immediate and delayed posttests. This outcome suggests that clickers can facilitate the memorization of

auditory material. The fact that the No-Clicker group made greater progress in competence may result from many students taking notes during the lesson, a task that was difficult to accomplish in the clicker-based classes because the learners' hands were engaged in voting. Considering the RP/GA features under investigation, the progress was higher in the case of the Clicker Group in terms of both competence and recognition on the immediate and delayed posttests.

The attitudes of Polish students towards the use of clickers in their phonetics classes were shown to be similar to those found in previous studies involving different L1 backgrounds. As in the studies of Blodgett (2006), Cardoso (2011, 2013), and Caldwell (2007), the Polish learners involved in this research claimed that the use of clickers increased their interest and participation in the lessons, helping them to stay focused on the learning tasks. Just like the subjects of Barnett's (2006) and Cardoso's (2011) research, those in the present study considered clickers to be a tool that allowed them to learn without stress, to self-assess their skills and knowledge, and to compare their performance to that of other students. Similar to what was observed in Cardoso (2011), Cutrim Schmidt (2007) and Johnson (2010), some of our participants believed that the LRS directly contributed to their learning. As the multifaceted qualitative data collected revealed, the most important advantage of using clickers was that they allowed students to participate actively in the class without fear and embarrassment due to the anonymity afforded by the technology.

Contrary to findings observed in earlier studies, our participants were not convinced that clickers made them more willing to interact with their classmates. This can be explained by the content of the class chosen for the experiment. More specifically, the activities used in this study aimed mainly at increasing students' phonetic/phonological competence on the rules governing word stress and differences between RP and GA. Thus, less time and fewer opportunities were left for the practice of productive skills in pairs and groups, activities which our participants were used to performing.

With regard to the perceived weaknesses of the LRS, the results presented here are similar to those found in previous studies, e.g. the time and effort needed to prepare the presentations, or the possibility of clickers becoming boring when they become mainstream. It was also noticed that involvement in the clicker-based classes made it difficult to take notes, possibly explaining why in some subcomponents of the posttests, the No-Clicker Group made more progress than the Clicker Group. Moreover, a few participants noticed some disadvantages in the anonymity that clickers allow for. For instance, we found that some learners might become less involved and willing to think over their answers, since there is no chance of knowing who answered what. We also discovered that some students might feel dissatisfied about not receiving personal feedback from the teacher. Such remarks imply that, as in the case of other traditional or computer-based pedagogical tools, clickers need to be used skillfully and supported by other more personalized activities. It is also possible that students' attitudes towards the use of clickers and their actual effectiveness in teaching depend upon many individual variables such as learners' personality and cognitive style (e.g., sensory modality preferences, field dependence/independence, or tolerance of ambiguity), factors that will be verified in further studies on the use of clickers in L2 settings.

Appendix

Table A.1 Written Measure of Students' Attitudes (WMSA)—Part 2

To what extent do you agree/disagree with the statements below?		Strongly agree	Agree	Neutral	Disagree	Strongly disagree
0a	EXAMPLE: I like riding a bike	X				
0b	EXAMPLE: I like swimming			X		
1a	My interest in the *clickers* lesson was high.					
1b	My interest in the *PowerPoint* lesson was high.					
2a	*Clickers* increased my interest in the lesson.					
2b	*PowerPoint* increased my interest in the lesson.					
3a	*Clickers* made me participate in the class eagerly.					
3b	*PowerPoint* made me participate in the class eagerly.					
4a	*Clickers* encouraged me to interact with my classmates.					
4b	*PowerPoint* encouraged me to interact with my classmates.					
5a	I eagerly answered the questions posed by the teacher in the *clickers class* (z chęcią odpowiadałem/łam…).					
5b	I eagerly answered the questions posed by the teacher in the *PowerPoint class* (z chęcią odpowiadałem/łam….).					
6a	*Clickers* helped me understand things we learned in the class.					
6b	*PowerPoint* helped me understand things we learned in the class.					
7a	*Clickers* helped me remember things we learned in the class.					
7b	*PowerPoint* helped me remember things we learned in the class.					
8a	The class with *clickers* was clear.					
8b	The class with *PowerPoint* was clear.					
9a	The class with *clickers* was boring.					
9b	The class with *PowerPoint* was boring.					
10a	The class with *clickers* was well-paced (lekcja miała dobre tempo).					
10b	The class with *PowerPoint* was well-paced (lekcja miala dobre tempo).					
11a	During the class with *clickers* I felt relexed all the time.					
11b	During the class with *PowerPoint* I felt relaxed all time.					
12a	The class with *clickers* was enjoyable.					
12b	The class with *PowerPoint* was enjoyable.					
13a	During the class with *clickers* I sometimes felt anxiety and/or embarrassment.					
13b	During the class with *PowerPoint* I sometimes felt anxiety and/or embarrassment.					
14a	I would like *clickers* to be used regularly in phonetics class.					
14b	I would like *PowerPoint* to be used regularly in phonetics class.					

References

Agbatogun, A. O. (2011). Nigerian teachers' integration of personal response system into ESL classroom. *International Journal of Education, 3(2)*.

Barnett, J. (2006). Implementation of personal response units in very large lecture classes: Student perceptions. *Australasian Journal of Educational Technology, 22(4)*, 474-494.

Blodgett, D. L. (2006). The effects of implementing an interactive student response system in a college algebra classroom. MSc Thesis, University of Maine.

Blood, E., & Gulchak, D. (2013). Embedding "Clickers" into classroom instruction: Benefits and strategies. *Intervention in School and Clinic, 48(4)*, 246-253.

Caldwell, J. E. (2007). Clickers in the large classroom: Current research and best-practice tips. *Life Sciences Education, 6(1)*, 9-20.

Bristol, T. J. (2011). Clickers: Audience response strategies. *Teaching and Learning in Nursing, 6 (4)*, 192-195.

Cardoso, W. (2011). Learning a foreign language with a learner response system: The students' perspective. *Computer Assisted Language Learning, 24(5)*, 1-25.

Cardoso, W. (2013). Learner response systems in second language teaching. In C. Chapelle (Ed.), *The Encyclopedia of Applied Linguistics* (pp. 3250-3256). Oxford, UK: Wiley-Blackwell.

Celce-Murcia, M., Brinton, D., & Goodwin, J. (1996). *Teaching pronunciation*. Cambridge: Cambridge University Press.

Ciszewski, T. (2004). Transcription games (workshop). In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Materiały z konferencji 'Dydaktyka fonetyki języka obcego w Polsce.' Mikorzyn k. Konina 10-12 maja 2004r. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie* (pp. 35-36). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Clark, R. E. (1983). Reconsidering research on learning from media. *Review of Educational Research, 53*, 445-459.

Cutrim Schmid, E. (2007). Enhancing performance knowledge and self-esteem in classroom language learning: The potential of the ACTIVote system component of interactive whiteboard technology. *System, 35*, 119-133.

Cutrim Schmid, E. (2008). Using a voting system in conjunction with interactive whiteboard technology to enhance learning in the English language classroom. *Computers and Education, 50*, 338-356.

Dłutek, A. (2002). Aktywizacja młodzieży w procesie nauczania fonetyki. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku* (pp. 149-160). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Doughty, C. (2001). Cognitive underpinnings of focus on form. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 206-57). Cambridge: Cambridge University Press.

Ellis, R. (2009). Corrective feedback and teacher development. *L2 Journal, 1(1)*, 3-18.

Fagen, A., Crouch, C., & Mazur, E. (2002). Peer instruction: results from a range of classrooms. *The Physics Teacher, 40(4)*, 206-209.

Ferlacka, W. (2006). How can e-readers stimulate phonological development? In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia VIII. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Proceedings of the Soczewka Conference on teaching foreign pronunciation* (pp. 61-72). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Fies, C., & Marshall, J. (2006). Classroom response systems: A review of the literature. *Journal of Science Education and Technology, 15(1)*, 101-109.

Giridharan, B. (2013). Exploring the use of ARS-keypad technology in English vocabulary development. *Arab World English Journal, 4(2)*, 93-105.

Gonet, W. (2004). Seven deadly sins in teaching English phonetics. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Materiały z konferencji 'Dydaktyka fonetyki języka obcego w Polsce.' Mikorzyn k. Konina 10-12 maja 2004r. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie,* (pp. 44-55). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Hartmann, W. (2012). Teaching musical acoustics with clickers. *The Journal of the Acoustical Society of America, 132(3)*, 1922.

Johnson, E. (2010). Clicking in the foreign language classroom: Exploring effects of a novel source of explicit feedback. Unpublished manuscript.

Judson, E., & Sawada, D. (2002). Learning from past and present: Electronic response systems in college lecture halls. *Journal of Computers in Mathematics and Science Teaching, 21*, 167-181.

Kaleta, R., & Joosten, T. (2007). Student response systems: A University of Wisconsin study of clickers. *Research Bulletin 6*. Boulder, CO: EDUCAUSE Center for Applied Research.

Liu, J., & Hansen, J. (2002). *Peer response in second language writing classrooms*. Ann Arbor: The University of Michigan Press.

Mazur, E. (1997). *Peer instruction: A user's manual*. Upper Saddle River, NJ: Prentice Hall.

Morley, J. (1994). A multidimensional curriculum design for speech –pronunciation. In J. Morley (Ed.), *Pronunciation pedagogy and theory. New views, new directions* (pp. 64-91). Alexandria, Va: TESOL.

Murphy, T., & Jacobs, G. M. (2000). Encouraging critical collaborative autonomy. *JALT Journal, 22*, 228-244.

Oigara, J., & Keengwe, J. (2013). Students' perceptions of clickers as an instructional tool to promote active learning. *Education and Information Technologies, 18(1)*, 15-28.

Philp, J., Adams, R., & Iwashita, N. (2013). *Peer interaction and second language learning*. New York: Taylor and Francis.

Pośpieszyńska, M., & Wolski, B. (2002). Teaching English phonetics in the Institute of Neophilology, State Vocational College Konin. A few practical ideas. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku. Proceedings of the Soczewka Conference on teaching foreign pronunciatio* (pp. 185-198). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Serafini, E. J. (2013). Learner perceptions of clickers as a source of feedback in the classroom. In K. McDonough, & E. Mackey (Eds.), *Second language interaction in diverse educational contexts* (pp. 209-224). Amsterdam: John Benjamins.

Sobkowiak, W. (1996). *English phonetics for Poles*. Poznań: Wydawnictwo Ponańskie.

Sobkowiak, W. (2003). Materiały ulotne jako źródło metakompetencji fonetycznej (Raising phonetic awareness through trivia). In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia V. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku* (pp. 151-166). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Stasiak, S., & Szpyra-Kozłowska, J. (2003). Atrakcyjność a efektywność technik nauczania wymowy. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia V. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku* (pp. 167-180). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Stewart, S., & Stewart, W. (2013). Taking clickers to the next level: A contingent teaching model. *International Journal of Mathematical Education in Science and Technology, 44(8)*, 1093-1106.

Szpyra-Kozłowska, J., Frankiewicz, J., & Święciński, R. (2006). The language laboratory and modern pronunciation pedagogy. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia VIII. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku* (pp. 285-304). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Szpyra-Kozłowska, J. (2012). Mispronounced lexical items in Polish English of advanced learners. *Research in Language, 10(2)*, 243-256.

Wrembel, M. (2002). New perspectives on pronunciation teaching. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku* (pp. 173-184). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Wrembel, M. (2004). Beyond 'listen and repeat' – an overview of English pronunciation teaching materials. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Materiały z konferencji 'Dydaktyka fonetyki języka obcego w Polsce.' Mikorzyn k. Konina 10-12 maja 2004r. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie* (pp. 171-180). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Zawadzka, T. (2002). Warm-ups, games and activities using phonemic script. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia II. Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku,* (pp. 199-210). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Płocku.

Teaching English Pronunciation Online to Swedish Primary-School Teachers

Una Cunningham

Abstract This paper presents an online course devised to meet the needs of Swedish primary school teachers who need to teach English to their pupils despite not having studied the language themselves more than minimally at tertiary level. Over a hundred teachers took the course as an online summer course. The course was on the learning and teaching of English pronunciation and grammar. Since Swedish primary school teachers often have significant Swedish accents and many cannot write a text in English without a number of characteristic grammatical errors, the course was designed to focus on a limited number of features of English grammar and pronunciation that are both frequently difficult for Swedish speakers and particularly salient, in addition to introducing the teachers to general principles of language education. Because the teachers were not all in Sweden at the time, it was deemed desirable to minimize the real-time interaction needed for the course. This produces particular challenges for the teaching of pronunciation. Ten strategies for teaching English pronunciation online at tertiary level were implemented. This paper reports the process of identifying the most prominent non-native features of each teacher's pronunciation and working intensively to improve their pronunciation for these features. The strategies are presented and their effect on and reception by the teachers is accounted for with reference to previous research in the teaching and learning of pronunciation and in online learning. The lessons drawn from the first iteration of the course and how these have informed the upcoming second iteration are discussed.

U. Cunningham (✉)
University of Canterbury, Christchurch, New Zealand
e-mail: una.cunningham@canterbury.ac.nz

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_4

1 Introduction

1.1 English Teachers in Sweden

It has been suggested that English in Sweden has some of the characteristics of a second language rather than a foreign language (SOU, 2002, p. 27; Hyltenstam, 2004, p. 52). Children in Sweden begin learning English in the first years of primary school and continue until they are in upper secondary school. English language proficiency (evidenced by passing grades in upper secondary courses in English) is part of the school leaving qualification and the requirement for university entrance. To this it could be added that English-speaking cultures are highly regarded by Swedish young people (Sundqvist, 2009; Sundqvist & Olin-Scheller, 2013), and that Swedish is a small language spoken almost exclusively in Sweden and parts of Finland, so a language of wider communication is seen as an essential part of the education of young Swedes. Consequently, Swedes are generally held to have a high level of proficiency. Hyltenstam (2004, pp. 53–54) attributes this to four factors: Swedish people frequently travelling abroad; the frequent use of English in Swedish media and the availability of media in English; Swedish people being interested in learning English and the fact that Swedish and English are related languages, making the learning of English fairly easy for Swedish speakers.

Primary school teachers in Sweden are expected to teach their classes all parts of the curriculum, including English. Nonetheless, until recently, primary teacher education in Sweden did not require students to study English. The latest primary teacher education programme requires students preparing to teach 6–10 year olds to have 15 ECTS credits of English at university, equivalent to 10 weeks fulltime study. This means that there are a large number of primary school teachers in Swedish schools who, while they are well able to understand written and spoken English, and to speak fairly fluently at the drop of a hat, have strong Swedish accents and are unable to write grammatically.

1.2 English Pronunciation in Swedish Schools

The Swedish curriculum for the school subject of English is, from the earliest stages to upper secondary, entirely based on the learners developing communicative competence in English. Students can be given top grades based on their ability to use English, with barely a nod to the grammar and norms of standard written English or the phonology of a native variety. In Swedish schools, there is no wish for a return to the prescriptive classrooms of yesteryear—communication is king! Communication is, in accordance with the intentions expressed in the Common European Framework of reference for Languages (CEFR: Council of Europe, 2011), the only reasonable priority for the teaching of English in Swedish schools. Those who continue studying English at university learn about and are expected to

aspire to grammatical accuracy and the norms of native-like pronunciations. Teachers, as the main model for learners in the classroom, need to speak and write accurate English (even though, as Sundqvist (2009) established, Swedish young people hear a lot of English outside the classroom). Nonetheless, primary teachers, who may have high grades in English from upper secondary courses but have not studied English at university, will not necessarily be aware that their English is other than "awesome."

University lecturers who teach the first year English courses often bemoan this; educational politics mean that the threshold for entrance to university study of English is low. Many students do not make it through the first semester of study and this has led to attempts to assess the needs of the new entrants and help them to improve their grammatical and pronunciation accuracy. However, neither a strong Swedish accent nor inaccurate grammar will necessarily lead to failure in university English, provided the student is able to communicate well. Once they have managed to pass the first semester courses, very little emphasis is placed on their English language proficiency. As proficiency is not the focus of the courses, by regulation, it is not allowed to be the focus of the learning outcomes or the grading criteria. This leads to some students coming to language teacher education after several years of university English, with a view to becoming teachers of English at upper secondary school, yet quite unable to speak without grammatical error and a strong Swedish accent. The same mechanisms apply to learning outcomes and grading criteria in language education as in courses in English linguistics and English literature. Even if the course is taught in English, and students use English in their assignments and in class, their proficiency, and still less, their accuracy (aka native-likeness) is not a learning outcome and may not be the basis for assessment.

There is a degree of doublethink in operation here. On the one hand, liberal forces argue that there is nothing wrong with a Swedish accent in English and that transfer from Swedish grammar to English is a normal language contact phenomenon, and that the resulting forms are characteristics of a Swedish variety of English. This might work for the curriculum for schools and the requirements for teenagers to pass English at school, but, on the other hand, few parents and principals want teachers to teach Swedish English.

In the 1980s, Swedish universities accepted only RP as a target for English pronunciation. This had some absurd consequences such as native speakers of American English failing exams on the basis of their failure to pronounce words and read texts in an adequate approximation to RP. The universities now accept other native accents as targets for English pronunciation, but a heavy Swedish accent is still frowned upon in university departments of English, in much the same way as failure to master subject-verb agreement is.

In schools, however, the Swedish curriculum for English has stepped away from any kind of pronunciation teaching. Pronunciation and intonation are actually specified content in the syllabus from year 4–6 onwards, but the grading criteria make no mention of anything more demanding than *clarity* in oral production, even for the highest grades in year 6. By year 9 the highest grade also requires fluency of speech.

Naturally, this situation means that pronunciation is not prioritized in Swedish schools. Teachers have no reason or remit to guide students towards native-like pronunciation as long as their speech is clear and reasonably fluent. This is, in fact, entirely in line with the personal targets of many young Swedes. As English approaches second language status in Sweden (Hyltenstam, 2004), it is entirely reasonable that Swedish-accented speech be afforded the respect due to any regional accent of English. In other words, if it is acceptable for a teacher to speak English with a Northern Irish, Scottish or New Zealand accent, none of which can lay any great claim to being clear or intelligible, why should it not be acceptable for a Swedish speaker to speak English with a Swedish accent rather than aspire to fool the listener into believing that they grew up in Oxford or Ohio? Furthermore, some learners take pronunciation teaching as much of a personal affront as a Northern Irish person might if urged to work a bit harder at upholding the GOOSE-FOOT distinction. If the native speaker of such a variety can argue that this distinction happens not to be part of their phonological system, and that speaking with an accent is an expression of identity, how can anyone insist that Swedish students work at distinguishing *ice* and *eyes*?

This increasing acceptance of non-native pronunciation is by no means confined to Sweden. Certainly, Tergujeff (2013, p. 84) found a young Finn who reported not wanting to speak English without an accent, saying (in her translation) *No, it wouldn't be nice. I want to emphasise that I'm not British but a Finn.* Buckingham (2014) found that Omani learners responded favourably to both British accents and Arabic accents in teachers. Nonetheless, this position is not universally accepted by all stakeholders. Prescriptive forces, including some students and their parents, as well as many teachers, insist that learners are given the opportunity to aspire to native-speaking targets, usually British or American unless there is a compelling reason, such as the student having spent time in another English-speaking environment. This means that there is a case for encouraging teachers to work on the most salient Swedish-accented features of their English pronunciation. Cunningham (2009), Henderson et al. (2012), D. Murphy (2011), J. M. Murphy (2014), Smith (2011) and Van den Doel (2008) also discuss the question of whether a particular variety of native or non-native English is a good model, and the answer has to be that it depends entirely on the beliefs and targets of the learners, and that learners should probably be allowed to choose their targets as well as their models.

1.3 Swedish Accent of English

Even a strong Swedish accent does not often lead to any real lack of clarity. Swedish has an inverse temporal relationship between vowel and consonant length, such that short vowels are followed by long consonants e.g. *vitt*, and long vowels are followed by short consonants, e.g. *vit.* This means that Swedish speakers often transfer this relationship to English. Also, Swedish has dentals where English has alveolars (/t, d, n, s/) and no /z/. Swedish has no affricates and its voiceless

fricatives, while several in number, do not include a palatoalveolar that occurs initially like the English *shoe*. Swedish does not use pre-fortis clipping as a cue to post-vocalic voicing as English does, so the Swedish accent will not make the vowel in *bid* longer than the vowel in *bit*. In addition, vowels are often confused or distinguished using cues that are not salient to non-Swedish listeners.

1.4 Teaching Pronunciation Online

Online language teaching is not new, although universities have not, generally been among the first to move in this area. Ubiquitous connectivity has led to a range of more or less genuine operations offering to connect teachers and learners for private tuition. Tertiary distance learning has a long tradition of text-based courses, which clearly do not lend themselves to modern communicative spoken language learning. Videoconferencing would have offered a reasonable step up if the technical requirements were not so expensive and complex. The realization that the development of synchronous tools such as chat and voice chat such as Skype could be applied to learning met some resistance by those who had not tried or who had faced technical challenges. Desktop video conferencing through e.g. Adobe Connect is a huge step forward and, even though there is a learning curve for teachers and students alike, there are advantages in the multimodal affordances of these systems (cf. Cunningham et al., 2010; Cunningham, 2011). I would argue that effective language learning and teaching requires synchronous communication. Others go a step further into virtual space, to create liminal experiences such as those in an integrative environment such as Traveler or more recently, Second Life (Sobkowiak, 2012). One advantage of this is that an environment is created where tools, including games, for teaching can be collected and used.

2 The Course

2.1 Course

The course that is the focus of this study was not in any kind of rich 3D environment, and there were compelling reasons for keeping the synchronous elements to a minimum. The stated aim of the course was that students would develop their awareness of common "problem areas" in English as well as their ability to work communicatively with grammar and pronunciation in their teaching at different school levels.

The course was structured on the University learning platform as a series of ten weekly packages of tasks including two written hand-ins and six oral hand-ins. Each week there were web-lectures or videos to watch, podcasts to listen to, texts to read, sound recordings to make, texts to write, forums to read and interact in.

Each week's package included tasks in each of grammar, pronunciation and language education. The course ended with the second written assignment, a lesson plan working communicatively with a formal aspect of the language and a real-time group seminar in Adobe Connect where five students discussed each other's lesson plans according to a pre-arranged schedule.

2.2 Students

This was a summer course, offered to active teachers and teacher students who were so concerned about their professional development that they were prepared to give up some of their free time over the long vacation to work on their English and their teaching of English. Many of them took part from holiday homes or boats and they may not have had much access to fast broadband. For that reason, an effort was made to limit the need for synchronous communication. One hundred and fifty students were registered on the course, 111 handed in the first assignment and 91 of them completed the course, 73 with passing grades. This is a fairly good throughput for an online summer course. European students do not pay tuition fees in Sweden, and many sign up for courses like this that they never really start. There are no repercussions for students who do not start or who drop out of courses.

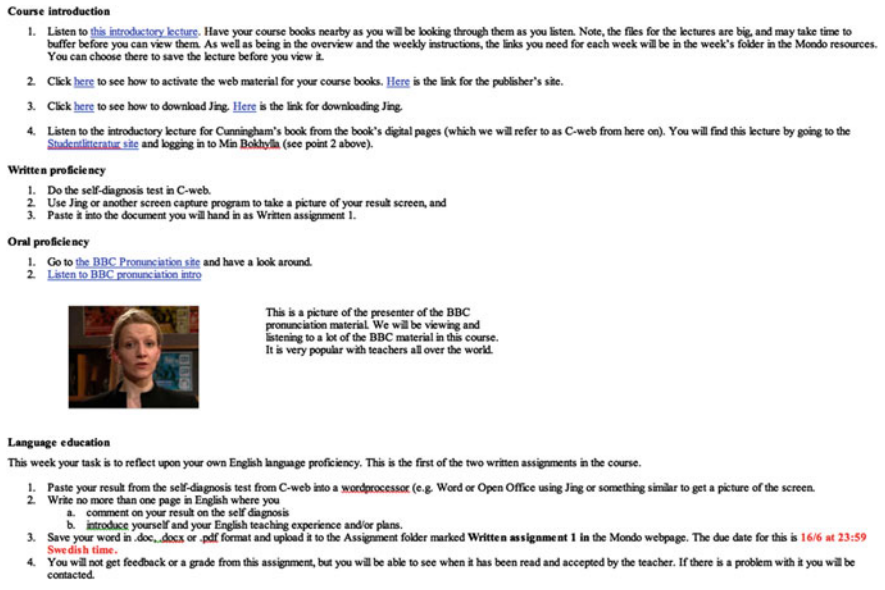
2.3 Course Materials and Technologies

As well as helping teachers to teach English using a communicative approach, the course had a second, somewhat covert aim: it was designed to raise the students' own proficiency in English. As indicated above, university structures meant that this course aim could not be clearly expressed. A textbook (Cunningham, 2013) was written for the course, to give a brief explanation of twenty of the most noticeable features of Swedish speakers' English with a view to helping users to work on these "easy targets" for improvement. Eleven of these twenty features were grammatical, and the remaining nine were:

- Confusion of words like *eyes* and *ice*
- Confusion of the vowels of *man*, *men*, *main*
- Confusion of the vowels of *hot*, *hut*, *heart*
- Confusion of the vowels in *sheep* and *ship*
- Confusion of the initial sounds of *sheep* and *cheap*
- Interdentals
- /v/ and /w/
- Confusion of the initial sounds of *yes* and *Jess*
- Difficulty expressing emphasis and contrast prosodically.

While these features do not typically hinder intelligibility, they do create a strong impression of a Swedish accent. As well as the textbook, web-based lectures were prepared for the students as mp4-files using TechSmith's screen capture and video editing software Camtasia and Snagit. These were about course administration, e.g. on how to activate the course books' web material, or about aspects of language education, e.g. how to use rhymes and songs to teach pronunciation. There were also audio lectures which accompanied another textbook on the publisher's website, audio lectures produced to accompany Cunningham (2013) and audio and other material from external sources such as the BBC Learning English website or the British Council website. The students were introduced to TechSmith's free screen capture software, Jing, which they would need to use to record their oral hand-ins. This was chosen as it allowed them to have a text on the screen that they are talking about as they speak, and they and their own students could use it later at no cost.

The course was centred on the learning platform. There were ten folders in the course resources, one for each week of the course. These each contained a hypertext document (such as that shown in Fig. 1). This document linked the students to course materials and to other sites that they were asked to access. The course materials were made available to the students a week before the beginning of the course week, and remained available until the end of the course. The students were assigned to groups and each group had a forum on the learning platform. They were asked to upload links to their recorded films (hosted in TechSmith's own Screencast servers) to the forum and to view and comment on each other's work. Towards the



Course introduction

1. Listen to this introductory lecture. Have your course books nearby as you will be looking through them as you listen. Note, the files for the lectures are big, and may take time to buffer before you can view them. As well as being in the overview and the weekly instructions, the links you need for each week will be in the week's folder in the Mondo resources. You can choose there to save the lecture before you view it.
2. Click here to see how to activate the web material for your course books. Here is the link for the publisher's site.
3. Click here to see how to download Jing. Here is the link for downloading Jing.
4. Listen to the introductory lecture for Cunningham's book from the book's digital pages (which we will refer to as C-web from here on). You will find this lecture by going to the Studentlitteratur site and logging in to Min Bokhylla (see point 2 above).

Written proficiency

1. Do the self-diagnosis test in C-web.
2. Use Jing or another screen capture program to take a picture of your result screen, and
3. Paste it into the document you will hand in as Written assignment 1.

Oral proficiency

1. Go to the BBC Pronunciation site and have a look around.
2. Listen to BBC pronunciation intro

This is a picture of the presenter of the BBC pronunciation material. We will be viewing and listening to a lot of the BBC material in this course. It is very popular with teachers all over the world.

Language education

This week your task is to reflect upon your own English language proficiency. This is the first of the two written assignments in the course.

1. Paste your result from the self-diagnosis test from C-web into a wordprocessor (e.g. Word or Open Office using Jing or something similar to get a picture of the screen.
2. Write no more than one page in English where you
   a. comment on your result on the self diagnosis
   b. introduce yourself and your English teaching experience and/or plans.
3. Save your word in .doc, .docx or .pdf format and upload it to the Assignment folder marked **Written assignment 1 in** the Mondo webpage. The due date for this is **16/6 at 23:59 Swedish time.**
4. You will not get feedback or a grade from this assignment, but you will be able to see when it has been read and accepted by the teacher. If there is a problem with it you will be contacted.

Fig. 1 Weekly instructions for the course

end of the course, the students signed up in groups of five on a schedule for the real-time seminars that were part of the examination of the course. Students were told they needed a headset or earbuds to take part in the Adobe Connect sessions.

2.4 Strategies

The nine pronunciation chapters of Cunningham (2013) (the themes of these are listed above) were used as the basis for the pronunciation part of the course. The following strategies were used in the course.

2.4.1 Needs Analysis

The publisher's website accompanying Cunningham (2013) includes a simple web-based, automatically corrected multiple choice grammar test, which served as a needs analysis for the grammar part of the course. In addition, students were asked to record themselves reading a short text aloud and introducing themselves and their reasons for taking the course. These sound recordings were analysed for the presence of any of the nine target pronunciations, and anything else particularly striking. This formed the basis of a pronunciation needs analysis.

2.4.2 Individual Feedback from the Needs Analysis

The students were given individual feedback on their pronunciation based on the analysis of their pronunciation in the first oral hand-in. They were told which of the pronunciation chapters in the textbook they would need to work most with. Other feedback was also given on anything that did not fit into any of the chapters of the textbook (Cunningham, 2013). See Results below for further detail of the feedback given.

2.4.3 Texts Explaining the Pronunciation of Specific Sounds

The chapters of the textbook contained detailed explanation of these common features of Swedish-accented English. These explanations often took similar Swedish sounds as the departure point for the description of an English sound, such that the English word *far* was described as being like the Swedish word *far* but without the strong lip-rounding of the Swedish vowel and with a shorter vowel and no pronunciation of the final ⟨r⟩. IPA transcription was not used.

2.4.4 Web-Based Audio Lectures on these Texts

The web version of each of the pronunciation chapters in the textbook includes a sound file with the examples given in the text. In addition, an audio lecture was prepared to talk the student through each chapter.

2.4.5 Web-Based Lectures on English Articulatory Phonetics and Reading the IPA

Three radio programmes about pronunciation were linked in as weekly activities in some weeks for the students. These are part of extensive pronunciation learning material from the BBC Learning English site. In addition, this site has videos about each phoneme in RP with example words, and materials for practicing the IPA.

2.4.6 Perception Practice Activities

The students were asked to practice listening to problematic sounds in exercises where students can practice their perceptual skills. Students are asked to listen to words being read and to pick out the one different word in triads of words, such as *man, main, man.*

2.4.7 Production Practice Activities

One of the oral assignments that the students do is to record themselves reading a text, an excerpt from either *Winnie the Pooh* or *Harry Potter,* as though to children or adolescents. This involves not only fluency and reasonable segmental pronunciation, but also engagement and good understanding of the text.

Another activity involved the participants producing a 60-s *idea to change the world*, based on the BBC radio programme of the same name.

2.4.8 Peer Feedback

The students gave each other feedback, not directly on pronunciation, but on their thoughts about reading aloud to learners as a meaningful language teaching activity. In fact, some of the students did spontaneously give each other positive feedback on pronunciation. The only times negative feedback was given between peers was when the students totally mispronounced a word.

2.4.9 Second Feedback Session

Near the end of the course, as the sixth oral hand-in, the students rerecorded themselves reading the text they read and received individual feedback on at the beginning of the course. They were invited to compare the recordings and to reflect on any improvement in pronunciation they have noticed, recording their reflections as well. Then they were given feedback again on these new recordings.

3 Results

3.1 Student Experience

In the anonymous web-based end-of-course evaluation, all 47 of the students who responded expressed finding the web-based lectures helpful or very helpful. Comments were that they appreciated the lectures being short and accessible. Similarly, the course book (Cunningham, 2013) and its associated online material were found useful and easy to understand.

The students expressed frustration at the limited amount of feedback they received from the teachers and did not generally appreciate the peer feedback, although some groups worked better than others. Some students felt that it was awkward to have both inexperienced teacher students and teachers with many years of classroom experience in the same groups. The students enjoyed the immediate response from self-correcting quizzes that were used to practice differentiating between similar sounds.

3.2 Outcome of Course

In the first oral hand-in, the students were asked to record themselves reading a short text (*The North Wind and the Sun*) and then to comment on their own pronunciation and how they felt about it. The sixth and final oral hand-in, about 8 weeks later, had them revisit the first recording and the feedback received then and record a new reading of the same text and reflections on any perceived progress made in pronunciation.

There were three kinds of pronunciation feedback given to the students on the marking template used for oral hand-in 1. First, there was a matrix, indicating the nine pronunciation chapters of the main course textbook (Cunningham, 2013), shown here as Fig. 2. Any feature the student had trouble with was highlighted.

Second, there was a heading called *Other issues* intended for any comments that did not come under any of the chapters of Cunningham (2013). Third, there was a *General comment* heading for more general comments, e.g. about tempo, supra-segmental features of the student's pronunciation or intelligibility or some matter of content mentioned by the student, e.g. about the classes they teach.

Ch 12 *Eyes* and *ice*	Ch 13 Vowels *Man men main*	Ch 14 Vowels *sheep ship*
Ch 15 *Sheep cheap*	Ch 16 *Things* like *this* and *that*	Ch 17 *Very well*
Ch 18 *Yes judge Judy*	Ch 19 Emphasis and contrast	Ch 20 Vowels *hot, hut, heart*

Fig. 2 Template used in feedback to indicate chapters in the course book dealing with pronunciation features that students needed to work with

The twelve students who received the lowest passing grade, E, for the course were selected to represent the pronunciation difficulties and feedback experienced by the students on the course. These students participated fully in the course, and while there may have been different reasons for them not achieving a higher grade on the course, between them they received most of the pronunciation feedback that was given to the class under the heading *Other issues*. Their results are shown in Table 1.

Some of the most frequent comments were feedback on the pronunciation of specific words, like *pronunciation* or *obliged*. Other comments were on the

Table 1 Uptake in oral hand-in 2 of feedback from oral hand-in 6 for students receiving grade E passes for the course

Feedback		Uptake	No uptake
Words	*Pronunciation* (pronounced as *pronounciation*)	S1, S3, S4, S5, S7, S9, S10, S11, S12	S4, S6, S8
	Wind (pronounced to rhyme with *mind*)	S2	
	Considered (pronounced with the final-*ed* as an extra syllable)	S6, S8	
	Language (final voiced affricate pronounced as voiceless fricative)		S5
	Obliged (pronounced as *obligated*)	S1, S4, S5, S9	
	Wrapped (pronounced with the final-*ed* as an extra syllable)		S12
	Silent letters pronounced in *knowledge*, *talk*	S11	
Sounds	Velar nasals		S7
	/r/ + /s/rule (does not apply)	S1, S2, S7	
	Interdentals	S1	S8
	Immediately /y/	S10, S11	
	Light/l/		S4
	Rounded vowel in *could*	S4	

pronunciation of specific vowels. Table 1 shows that 17 specific word comments were taken up by the students, while five were not taken up, meaning that the students continued to mispronounce these same words in the second recording of the text and/or their comments on their pronunciation. In this very limited data set, that is a 77 % uptake rate, which is quite satisfactory. Other kinds of feedback, regarding the pronunciation of sounds that occurred in several words, were less successful, except in the cases where the feedback was illustrated in particular words, such as the non-rounded final vowel in *immediately* and *closely* and English words like *first* where /s/ is preceded by /r/ being pronounced with a retroflex voiceless fricative. In these cases it is possible that the feedback is processed as word-specific feedback. General feedback on individual sounds, such as the interdental fricatives, or over-rounded vowels, was not usually taken up by the speakers.

The uptake of the marking of specific chapters for individual students was not analysed as all the students were in any case asked to work through all the chapters in the book. However, part of the final oral assignment was for the students to reflect on any development they were aware of in their own pronunciation. Again limiting the sample to the twelve students who received the lowest passing grade, a number of themes emerged:

First, students expressed gaining in confidence from being asked to prepare and record oral presentations of various kinds:

I feel like my English pronunciation has improved since I entered this course. (S2)
I feel a bit more confident and I feel I have developed. Before it was quite a while ago that I spoke English. So that was good with all the oral assignments that we have had to practice. (S10)
I feel much better confidence speaking English aloud. (S12)

Second, students felt they had learned about the pronunciation of specific words:

I feel like I can pronounce words like first and wind better than before. (S2)
I used to say pronunciation (S3)
Now I know better. (S7)
I did not really know that but now I know and will think about it. (S9)
I got more knowledge to why you are to pronounce something in a certain way. (S9)

Third, students felt they had learned strategies for continuing to develop their pronunciation:

Shaping my tongue is a problem, but I am practicing. Now I am really listening to pronunciation, and repeating. (S12)

Finally, fourth, they were motivated to continue working on pronunciation:

I will practice my pronunciation in the future and hope that in my future teaching that the students understand me and learn how to pronounce in the right way. (S2)
I will continue learning for ever until I sound like, as close as possible, to a native speaker. (S9)
I guess I just have to keep on practicing and reading English books. (S10)
My pronunciation still needs a lot of work. (S11)

4 Conclusions

It appears that the students gained in their explicit knowledge about English pronunciation through the course, but that their implicit knowledge, as evidenced in their own improved pronunciation in spontaneous speech was relatively unaffected by the course. This is supported by the fact that several students self-corrected for the pronunciation of some of the individual words they had been given information about, both in their second reading of the text, and in their spontaneous speech as they recorded their reflections. In addition, learning the pronunciation of individual words was mentioned by several of the students in their second recordings.

The relationship between explicit teaching and implicit knowledge is not well understood. In the kind of course that has been in focus in this study, the very act of having to speak English, even if it is without an interlocutor, is likely to improve the students' proficiency. Individual feedback given some time after a recording is made may be useful only as information about the pronunciation of specific words, rather than being available to affect the phonological system of the learner's interlanguage.

The advice given to students who needed to continue improving their pronunciation was to work holistically, listening extensively to English, e.g. in the form of podcasts on (non-language oriented) topics that are meaningful to them and sometimes stopping to pay attention to accents and to repeat aloud the pronunciation of words and phrases.

References

Buckingham, L. (2014). Attitudes to English teachers' accents in the Gulf. *International Journal of Applied Linguistics, 24(1)*, 50-73. doi:10.1111/ijal.12058.

Council of Europe. (2011). *Common European framework of reference for languages: Learning, teaching, assessment*. Council of Europe. http://www.coe.int/t/dg4/linguistic/Cadre1_en.asp.

Cunningham, U. (2009). Models and targets for English pronunciation in Vietnam and Sweden. *Research in Language, 7*, 113-128.

Cunningham, U. (2011). Liminality and disinhibition in online language learning. *International Review of Research in Open and Distance Learning, 12(5)*, 27-39.

Cunningham, U. (2013). *Twenty quick steps to better English for teachers and other busy people*. Lund: Studentlitteratur.

Cunningham, U., Beers Fägersten, K., & Holmsten, E. (2010). Can you hear me, Hanoi? Compensatory mechanisms employed in synchronous netbased English language learning. *International Review of Research on Open and Distance Learning, 11(1)*, 161-177.

Henderson, A., Frost, D., Tergujeff, E., Kautzsch, A., Kirkova-Naskova, A., Waniek-Klimczak, E., Levey, D., Cunningham, U., & Curnick, L. (2012). The English pronunciation teaching in Europe survey: Selected results. *Research in Language, 10(1)*, 5-28.

Hyltenstam, K. (2004). Engelskan, skolans språkundervisning och svensk språkpolitik. In Svenska språknämnden, *Engelskan i Sverige: Språkval i utbildning, arbet och kulturliv*. Stockholm: Norstedts Förlag.

Murphy, D. (2011). An investigation of English pronunciation teaching in Ireland. *English Today, 27(4)*, 10-18. doi:10.1017/S0266078411000484.

Murphy, J. M. (2014). Intelligible, comprehensible, non-native models in ESL/EFL pronunciation teaching. *System, 42*, 258-269. doi:10.1016/j.system.2013.12.007.

Smith, J. (2011). Teaching pronunciation with multiple models. *New Zealand Studies in Applied Linguistics, 17(2)*, 107-115.

Sobkowiak, W. (2012). *Five years in Second Life or phonetically augmented virtuality in Second Life English as a foreign language*. http://wa.amu.edu.pl/wa/node/3945.

SOU 2002:27. Mål i mun: Förslag till handlingsprogram för svenska språket. [*Speech: Draft action programme for the Swedish language*]. Kulturdepartementet.

Sundqvist, P. (2009). *Extramural English matters: Out-of-school English and its impact on Swedish ninth graders' oral proficiency and vocabulary*. Karlstad: Karlstad University.

Sundqvist, P., & Olin-Scheller, C. (2013). Classroom vs. extramural English: Teachers dealing with demotivation. *Language and Linguistics Compass, 7(6)*, 329-338.

Tergujeff, E. (2013). Learner perspective on English pronunciation teaching in an EFL context. *Research in Language, 11(1)*, 81-95. doi:10.2478/v10015-012-0010-z.

Van den Doel, R. (2008). The blind spots of Jenkins' Lingua Franca. In E. Waniek-Klimczak (Ed.), *Issues in accents of English*. Newcastle: Cambridge Scholars Publishing.

English Phonetic and Pronunciation Resources for Polish Learners in the Past and at Present

Marta Nowacka

Abstract This paper is an attempt to present the contribution of Polish practitioners and theoreticians to teaching English phonetics and pronunciation to Polish learners of English. In this analysis, which is far from being a critical review, we plan to examine books with a contrastive Polish–English phonetic component and/or aimed at a Polish reader. We take into consideration resources written over a period of nearly 90 years, from Benni (1924) to Porzuczek et al. (2013). Our analysis encompasses the most-favoured standards of English by Poles, i.e. Received Pronunciation and General American. Although all the examined resources share a unifying theme of English phonetics they differ in many respects, such as: the scope of discussion (a rudimentary introduction to, or a comprehensive course in, English pronunciation), the choice of model variety (Received Pronunciation, presented in most of the selected literature, or General American), objectives (a textbook, a practice book or both), the targeted audience (an average English learner/intermediate reader or a university student in an English Department), the language of instruction (English or Polish) as well as the accompanying materials (recordings on tapes, CDs or DVDs). Most of the above-mentioned textbooks include a selection of useful additional phonetic materials, e.g. Sobkowiak's (1995) well-known list of words commonly mispronounced, Porzuczek et al.'s (2013) list of English vowels and diphthongs in different contexts; Sawała et al.'s (2009) list of loanwords, etc. We also take a closer, contrastive look at one selected feature, which is the TRAP vowel in a sample of six textbooks to examine how this issue has been tackled at different times, by different authors over the period of nine decades, and also to see whether the treatment of it was affected by any trend in EFL methodology. It is hoped that this analysis apart from reviewing the phonetic literature will also encourage some readers to familiarize themselves with pioneering or recent teaching resources that have been published in Poland.

M. Nowacka (✉)
University of Rzeszów, Rzeszów, Poland
e-mail: martha.nowacka@gmail.com

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_5

1 Introduction

This paper aims to identify and illustrate some of the scholarly resources for the study of English phonetics, written by Polish authors over a period of 90 years.[1] The majority of these publications are targeted at Polish learners. There are four issues that we would like to discuss in the introductory section. The first of these is the importance of histography in pronunciation teaching and learning. Next, a brief overview of English phonodidactics in Poland with a focus on the main research areas is presented, where two summarizing studies are quoted. We then move onto the evaluation of the phonetic component in EFL textbooks and finally sketch the overview of teaching methods in EFL phonetic textbooks.

1.1 The Importance of Histography of Teaching and Learning Pronunciation

The present review of the phonetics and pronunciation textbooks outlines the Polish contribution to the history of applied phonetics teaching, which, as mentioned by Ashby and Przedlacka (2013, p. 11), is one of the major transnational themes that need to be traced. Here, we offer a summary of their postulates, which to some extent justify the subject of our study.

Ashby and Przedlacka express the view that the histography of teaching and learning pronunciation is little studied and should be explored further. They state (2013, p. 11) that textbooks provide the most accessible and permanent indication of the content and methods of phonetics teaching. They inform us about the creation of the Warwick ELT Archive (2014), still a work in progress, which includes all sorts of English language teaching and learning resources such as course-books, journals, etc. which were published up to the 1990s, beginning from the late 19th century. A comment is made that the creation of annals of relevant publications preferably linked to the physical or digital repository would be much favoured. They also suggest that a phonetic subdivision of this archive could be formed,

[1] A considerable effort has been made to present as many representative publications as possible, however, we realize that the list of the books under discussion, comprehensive as it is hoped, is not a complete one. Should the reader be familiar with any other material that could be added to this examination, please do not hesitate to contact the author. Although I am aware of the existence of some pronunciation-oriented books by Reszkiewicz (1962, 1963), Wolak (1963a, b, 1964, 1965, 1987), Sankowska (2006), I was unable to obtain them and include them in this analysis. Some valuable research publications, e.g. Biedrzycki's (1995) dictionary including both British and American pronunciation, the same author's (1978) focus on the phonology of English and Polish sonorants, Jassem's (1951) work on intonation of conversational Southern English and his (1987) English phonology manual for university students or Waniek-Klimczak's (2005) publication on temporal parameters should also be listed here, although they do not fall in the phonetic textbook category.

restricted to this area of the language. It could also include book reviews, reading lists and bibliographies and could function as a collaborative international project of collective historical phonetic bibliography. In their paper they also touch upon such issues as the use of technology and media in pronunciation teaching. It is suggested that there should be a place for the presentation of language laboratory equipment over time and of other devices such as the kymograph or lioretgraph which were used as teaching aids in pronunciation classrooms. Ashby and Przedlacka (2013, p. 12) point to the lack of an international union catalogue of audio material and a serviceable conspectus of sound archives around the world. The same authors draw our attention to the British Library Sound Archive, created in 1955, as a major collection of sound files. In addition they remark that the UCL Phonetics collection, from mostly the inter-war period of the 20th century, is a part of this archive and consists of recordings of lectures and performances and other teaching materials for English and also other languages. They call for preservation and cataloguing as well as digitization of the entire material and, what is of great importance, making it freely available to the public. The authors further claim that assessment of phonetics should also be more closely investigated; here they make us aware of the UCL project for digitizing phonetics exam papers dating back to 1929 to see how they developed over time. We learn that in the early 20th century the CPE exam had a compulsory 90-min written phonetics paper, which consisted of two transcriptions in careful and conversational style and theoretical questions; however, this idea was given up in 1932 and phonetics was removed from the exam so as not to discourage candidates. The paper finishes with a comment that learning is an area which is difficult to document and here they suggest using memoirs and recommend turning to oral history and interviews with phoneticians and their reminiscences of the experience of being phonetics students and of their teachers, etc.

1.2 The Evaluations of English Phonodidactics in Poland: Research Focus

The research on teaching English pronunciation to Polish learners has a long tradition and concerns many areas. Szpyra-Kozowska (2008) and Pawlak (2010) present a critical evaluation of pronunciation studies in Poland. In this section I intend to briefly summarize their major findings.

Szpyra-Kozłowska (2008) provides a thorough analysis of the achievements and failures of English phonodidactics in Poland and assesses the future prospects for this discipline. However, her examination is not based on textbooks devoted to teaching phonetics but to more than a hundred papers presented at the first three Accents conferences, organized by Prof. Waniek-Klimczak, as well as six meetings with a focus on teaching foreign language pronunciation, arranged in the years 2000–2006 by Prof. Sobkowiak and Prof. Waniek-Klimczak. Szpyra-Kozłowska (2008) discusses such issues as: the Polish context for teaching English pronunciation, the goals

of this process, i.e. the choice of a pronunciation model and the selection of pronunciation priorities, the Polish learner, pronunciation teaching techniques and resources, evaluation, testing and feedback. As one of the major failures of pronunciation research in Poland, Szpyra-Kozłowska (2008, p. 221) points to its lack of impact on actual pedagogical practice. She also indicates the matters that require further investigation, which are as follows: the perception of Polish-accented speech, the perception of English prosody by a Polish learner, more longitudinal studies on the attainment of English phonetics by Poles, the teacher-dependent aspects of pronunciation teaching and the effectiveness of innovative techniques in pronunciation teaching/learning.

Pawlak (2010) in his examination of the present and future focus of pronunciation research in Poland offers some guidelines for research methodology and stresses the need to make pronunciation research relevant to the needs of practitioners and for the benefit of phonetic instruction. One of his calls for change concerns the preparation of consistent pronunciation syllabi for learners of different levels of language advancement. He also advocates more research into the area of pronunciation learning strategies and the development of pronunciation autonomy in learners.

1.3 The Evaluation of the Phonetic Component in EFL Textbooks

So far the phonetic component in EFL textbooks of different kinds and different levels of advancement has been the focus of some researchers' attention. The issues concerned covered: the treatment of pronunciation in materials that are targeted at learners of general English (Szpyra-Kozłowska et al., 2003b; Szymańska-Czaplak, 2006; Sobkowiak, 2012; Henderson and Jarosz, 2013), the role of phonetics in international language exams such as Cambridge, TOEFL and TSE (Szpyra-Kozłowska, 2003), a detailed analysis of the phonetic component in textbooks preparing for these international language exams (Szpyra-Kozłowska et al., 2003a).

Szpyra-Kozłowska et al. (2003b), who examine pronunciation-oriented tasks in twenty series of course-books, observe that the top-down approach to phonetics is visible in them since it is prosodic elements and linking that are more frequently included in these courses.

Szymańska-Czaplak (2006) and Sobkowiak (2012) scrutinize the phonetic component in course-books at elementary level. The former author examines 30 textbooks for beginners at primary, junior high school and secondary school. In general, she finds that learners are not presented with a coherent picture of English phonetics, but they are rather sporadically, if at all, exposed to some focus on elements of pronunciation. She recommends two textbooks, *English in Mind* by Puchta and Stranks (2004) and *New English File* by Oxenden and Latham-Koening (2004), for a well-planned and complete presentation of English phonetics at a mostly segmental level with some suprasegmental aspects.

Sobkowiak (2012) in his chronological analysis of phonetic treatment in a sample of four beginner's EFL textbooks over a period of 50 years remarks that pronunciation learning/teaching is not prioritized and structured the way other aspects of the foreign language such as grammar and vocabulary are. He notices changes in teaching/learning paradigms, from an explicit grammatical explanation of articles characteristic of the grammar-translation method, through the application of phonetic transcription and the active encouragement of a learner to speak, typical of audiolingualism, as well as an emphasis on spoken practice in the communicative approach to lack of explicit treatment of phonetics nowadays, and the substitution of transcription with a sound file. By means of the Phonetic Difficulty Index (henceforth PDI) he points to some other differences between pronunciation teaching now and then. One of the differences is the use of longer and more communicatively useful sentences as well as the use of easy-words per record, which has risen five times over the examined time, which in turn could suggest that textbook writers are attempting to make their books more user-friendly now. However, what is worrying is the complete redundancy of phonetic aspects in the contemporary sources, which might suggest that a learner's pronunciation should take care of itself with no help from a textbook.

Henderson and Jarosz (2013) compare the treatment of English pronunciation in school textbooks aimed at the compulsory levels of the education systems in two countries, France and Poland. They focus on the preferred model accent/accents and on the activities that relate to prosody. Celce-Murcia et al.'s (2010) Communicative Framework for teaching pronunciation was applied in their analysis to check the degree of a learner's communicative involvement in a pronunciation task. One of their findings is that in both countries textbook writers opt for a focus on form rather than on meaning and interaction. The authors offer some suggestions of how to move the students from the inactive description and analysis stage to the communicative use of the language by means of digital textbooks and resources, e.g. SOFRES (2010).

Szpyra-Kozłowska (2003) questions the very impressionistic phonetic criteria that relate only to being intelligible and comes to the conclusion that the role of pronunciation in these exams is marginal. It is also suggested that such ignorance toward learning and teaching pronunciation may lead to a 'washback' effect, since exam takers do not regard their phonetic competence and performance as crucial because it is of low significance for their overall exam result. The above-mentioned arguments have been confirmed in a study by Szpyra-Kozłowska et al. (2003a), in which gross neglect of pronunciation practice has been found typical for exam course-books.

To sum up, the findings of the research into the treatment of phonetics in EFL textbooks indicate that the top-down approach to phonetics is characteristic of the majority of the courses. In general, with only a minute number of exceptions, contemporary textbooks aimed at the elementary level fail to teach learners pronunciation and disregard the importance of a well-structured phonetic syllabus. Although they seem to be more user-friendly, since they implement more communicatively useful phrases and include phonetically easier words, as verified by Sobkowiak's PDI, the lack of explicit concern for pronunciation suggests that it is a

skill which should take care of itself. It is also observed that a communicative approach to pronunciation teaching cannot be found in these courses. In addition, in the courses preparing for international language exams the same neglect of pronunciation-oriented tasks is observed, which is in line with the requirements of international language exams as well as the state secondary school final language exam in Poland (Dłutek, 2006), where care taken over pronunciation is of no merit.

1.4 The Overview of Teaching Methods in EFL Phonetics Textbooks

Sobkowiak (1996, p. VIII) observes that over a period of time new technologies, new theories and new insights have given us not only better understanding of English pronunciation, but also better methods of teaching it.

Jones (1997) makes a lot of valuable and accurate comments on pronunciation teaching over a period of 50 years, which are still relevant today. He briefly presents the approaches to teaching pronunciation with different methods. He reminds the reader that pronunciation, starting from being completely disregarded in the grammar translation method, benefited with the direct method and audiolingualism then lost its prominence in Communicative Language Teaching and the Natural Approach. Nowadays, in pronunciation-oriented publications worldwide the top-down approach to teaching pronunciation advocated in the 80s by Pennington and Richards (1986) and Pennington (1989), seems to prevail (Szpyra-Kozłowska et al., 2003b; Wrembel, 2004, 2008) in which suprasegments and especially elements of connected speech are regarded as more essential for successful communication than excellence in isolated sounds. In Jones' (1997, p. 104) analysis of some phonetics course-books available in the 90s, it is noticeable that most activities are of the habit-formation type since they are remarkably similar to the audio-lingual texts of the 50s, relying heavily on mechanical drilling of decontextualized words and sentences, and they are not in the least grounded in communication, which was also evidenced by Henderson and Jarosz (2013). In the analysed materials, exercises in elocution, proper rendition of discrete sounds, sounds in words and sentences, minimal pairs, in the form of imitation drills and reading aloud activities, prevail. Jones (1997) and Pennington (1996) admit that such tasks have always been indispensable tools for pronunciation learning since drilling enhances habit formation of cognitive and motor functions, leads to more automatic and routinized articulation, and is a necessary stage on the way to comfortable sounding communicative and meaningful discourse.

Jones (1997, p. 107) advocates the greater use of phonetic-awareness raising activities with the focus on L1 and L2 interference, which he notes might be more beneficial than error correction. The positive influence of conscious explicit knowledge of phonetics on the ability to self-monitor pronunciation development is also mentioned. What, however, calls for change in the future is the application of

more inductive rather than deductive techniques in pronunciation teaching. Jones remarks that the psychological and sociological factors of the learning process are neglected in pronunciation materials. He suggests that this could be changed if the textbook writers were willing to include personalization and student-centred activities, through questionnaires. He (1997, p. 110) exemplifies this by saying that such opportunities can be realized through questionnaires asking learners to reflect on their attitudes towards non-native like pronunciation of their own language, their pronunciation needs in their future careers, their perceptions of their ability to change their pronunciation, as well as activities in which learners are asked to comment on their impressions of recordings of speakers with different varieties and degrees of foreign accent.

Wrembel (2004, 2008) in her analysis of a sample of phonetics textbooks, shares Jones' (1997) view when it comes to the content and organization of material as well as the types of tasks. She echoes his arguments that in the analysed resources, 30 textbooks and 14 CD-ROMs of different model varieties of English, the audio-lingual method still prevails. Software is more likely to present not only British or more frequently American accents, but also other varieties such as Canadian or Australian. She observes an increased emphasis on suprasegmentals such as intonation, word and nuclear stress as well as rhythm, and also the occurrence of sections on fluency building and the slow rise in communicative activities. In the textbooks published in the 80s and 90s she notices a balanced treatment of segments and suprasegments. Moreover, in her analysis, the four resources published in Poland by Reszkiewicz (1984) [1981], Arabski (1987) and Sobkowiak (1996, 2000) fall into this category. She also remarks on the occasional use of consciousness-raising and self-monitoring tasks; however, she indicates the lack of voice quality and a separation of pronunciation study from other skills.

All in all, we should not forget that it is not only the rigid textbook that should be the source of a student's linguistic and phonetic metacompetence. Sobkowiak (2002) suggests that other sources could also be trivia in the forms of internet-lore, postcards, leaflets and others, written both in English and in Polish. He gives examples of skilful, humorous and undeniably creative use of these materials in the phonetics syllabus and shows how these texts and recordings could raise students' phonetic awareness and serve as a basis of segmental, suprasegmental and prosodic analysis. Sobkowiak makes an observation that the implementation of trivia in textbooks is well-justified for their highly communicative and metaphonetic value. He also notices that they are not commonly applied in Polish books and syllabi and expresses his hope for a change in the forthcoming future.

2 Method

This paper is an attempt to present the contribution of Polish practitioners and theoreticians to teaching English phonetics and pronunciation to Polish learners of English. In this analysis we plan to examine 23 phonetically-oriented books written

by Polish writers and published in Poland. Our corpus for analysis comprises: Benni (1924), Boniakowski (1946), Jassem (1964, 1993, 1995), Bałutowa (1990) [1965], Reszkiewicz (1965), Krzeszowski (1968), Janicki (1989) [1977], Gibińska and Mańkowska (1978, 1980), Wolak (1992) [1978], Reszkiewicz (1984) [1981], Wełna (1982), Arabski (1987), Jassem (1995), Szpyra-Kozłowska and Sobkowiak (2011) [1995], Sobkowiak (1996, 2000), Miatluk et al. (2008), Mańkowska et al. (2009), Sawała et al. (2009), Nowacka et al. (2011) and Porzuczek et al. (2013).

Most of these materials have a contrastive Polish–English phonetic component and/or are aimed at Polish readers. We take into consideration resources written over a period of nearly 90 years. Our analysis encompasses the most-favoured standards of English by Poles, i.e. Received Pronunciation and General American, since other varieties are not represented in the corpus materials.

A description and representation of the data on the books on English phonetics published in Poland is organized chronologically in Tables 1 and 2, from the older to the latest publication, from Benni (1924) to Porzuczek et al. (2013). Since the books were written over a period of 90 years we can assume that they will reflect some features corresponding to the teaching method at play at the time of their publications, i.e. reverberations of the grammar-translation, audio-lingual or communicative teaching schools. We hope to see differences in the material design and ideology.

Although all the above-mentioned resources share a unifying theme of English phonetics, they differ in many respects in terms of the structure of the book and the phonetic content. In this study, the term ‘structure’ encompasses seven features, namely:

(a) the year of publication;
(b) the model variety under discussion;
(c) objectives, where a division is made into a theoretical textbook, a practice book or a combination of both in which the explicit instruction is followed by a practical part;
(d) the scope and focus of the discussion—whether it is an introductory or comprehensive course and if it centres around phonetics or discusses other linguistic aspects, e.g. spelling, vocabulary or grammar;
(e) the targeted audience—this refers to the advancement in the language, e.g. advanced, intermediate or beginner, the last category is equivalent to a reader with no prior knowledge of phonetics. The courses meant for students of particularly English Departments, as specified by the authors, bear the reference ‘university’;
(f) the language of instruction, whether English or Polish;
(g) accompanying materials, which encompass the additional sections or appendices, recordings and the application of multimedia;

The contents of the examined books vary not only in the arrangement but also in the choice of the phonetics issues. As it seems a rather unachievable task to compare all the issues discussed within the scope of this paper, we restrict our analysis to a range of twenty-one selected topics, which traditionally form the basic

Table 1 The structure of the analysed phonetic textbooks

	Benni (1924)	Boniakowski (1946)	Jassem (1964) [1954]	Bałutowa (1990) [1965]	Reszkiewicz (1965)	Krzeszowski (1968)	Jassem (1993) [1971]	Janicki (1989) [1977]	Gibińska–Mańkowska (1978)	Wolak (1992) [1978]	Gibińska–Mańkowska (1980)
Year of publication [first edition]	(1924)	(1946)	(1964) [1954]	(1990) [1965]	(1965)	(1968)	(1993) [1971]	(1989) [1977]	(1980)	1978	1980
Variety: American: Am British: Br	Br	Br	Br	Br	Br	Am	Br	Am/Br	Br	Br	Br
Textbooks: Theory: Th Practice: P	Th	Th	Th, P[a]	Th&P	Th	Th	Th&P[b]	Th	P	P	P
Focus:[c]	Ph	Ph&G	Ph	Ph	Ph	Ph	Ph	Ph, Sp, V, Phr, G	Ph	Ph	Ph
Audience:[d]	B−A	B	I−A, U	B−A	B−A	A, U	I−A, U	I−A	I−A U	I−A U	I−A U
Appendix/additional sections	+	−	−	−	+	+	−	+	−	−	−
Recordings/sound carrier	−	−	−	+2 tapes	−	−	−	−	−	−	−
Multimedia	−	−	−	−	−	−	−	−	−	−	−
Language	P	P	P	P	P	E	P	E	E	E	E

	Reszkiewicz (1984) [1981]	Wełna (1982)	Arabski (1987)	Jassem (1995)	Szpyra-Kozłowska–Sobkowiak (2011) [1995]	Sobkowiak (1996)	Sobkowiak (2000)	Miatluk et al. (2008)	Mańkowska et al. (2009)	Sawała et al. (2009)	Nowacka et al. (2011)	Porzuczek et al. (2013)
Year of publication [first edition]	(1984)	(1982)	(1987)	(1995)	(2011) [1995]	(1996)	(2000)	(2008)	(2009)	(2009)	(2011)	(2013)
Variety: American: Am British: Br	Br	Br	Am	Br	Br	Br	Br	Br	Br	Am/Br	Br	Br
Textbooks: theory: Th practice: P	Th&P	Th	Th&P	P	P	Th&P	Th&P	Th	P	P	P	Th&P
Focus:[e]	Ph	Ph& Sp	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph	Ph
Audience:[f]	I−A, U	A, U	B−A	I−A	A, U	I−A, U	B−I	B−I	I−A, U	B−A	B−A, U	B−A, U

(continued)

Table 1 (continued)

	Reszkiewicz (1984) [1981]	Wełna (1982)	Arabski (1987)	Jassem (1995)	Szpyra-Kozłowska–Sobkowiak (2011) [1995]	Sobkowiak (1996)	Sobkowiak (2000)	Miatluk et al. (2008)	Mańkowska et al. (2009)	Sawała et al. (2009)	Nowacka et al. (2011)	Porzuczek et al. (2013)
Appendix/additional sections	+	+	+	−	+	+	+*	−	−	+	−	+
Recordings/sound carrier	−	−	+ 2 tapes	−	−	−	+	−	+ 4 CDs	+ DVD	+ 1 CD	+ 1 CD
Multimedia	−	−	−	−	−	−	+ on-line	−	−	+	−	−
Language	E	E	P	E	E	E	P	E	E	P	E	P

[a] Practical activities constitute only about 6 % of the book (10/181 pages)

[b] Here the percentage of practical part is higher than in Jassem (1964) [1954] and it takes 26 % of the whole course (54/205 pages)

[c] *G* grammar, *Ph* phonetics, *Phr* phraseology, *Sp* spelling and *V* vocabulary

[d] *A* advanced, *B* beginner/no prior knowledge required, *I* intermediate, *U* university

Table 2 The selected issues covered in the analysed phonetic textbooks

	Benni (1924)	Boniakowski (1946)	Jassem (1964) [1954]	Bałutowa (1990) [1965]	Reszkiewicz (1965)	Krzeszowski (1968)	Jassem (1993) [1971]	Janicki (1989) [1977]	Gibińska–Mańkowska (1978)	Wolak (1992) [1978]	Gibińska–Mańkowska (1980)
Segments	Vowels	+	+*[a]	+	+	−	+	+	+	+	−
	Consonants	+	+*	+	+	−	+	+	+	−	−
	Final voicing	+	+*	+	+	−	+	+	−	−	−
Suprasegments	Syllable	−	−	+	−	−	−	−	−	−	−
	Word stress	−	−	+	+*	+	−	+	+	−	+
	Sentence stress	−	−	+	−	+	−	+	−	−	−
	Assimilation	−	−	−	+	−	−	−	−	−	−
	Elision	−	−	−	+	−	−	−	−	−	−
	Linking	−	−	+	+*[c]	+	−	−	−	−	−
	Weak forms	−	−	+	+	+	−	+	−	−	−
	Rhythm	−	−	+	+	+	−	+	−	+	−
	Tones and tunes	−	−	+	−	+	−	+	−	−	−
	Sentence intonation	−	−	+	−	+	−	+	+	−	−
	Fluency of speech	−	−	−	−	−	−	+	−	−	−
General phonetics	Introduction to phonetics	−	−	+	−	−	+	+	−	−	−
	The organs and speech mechanics	−	−	+	+	−	+	+	−	−	−
	Spelling-to-sound correspondence	+	+*	+*	+	−	−	+	−	−	−
	Transcription intro	+	+*	+	−	−	−	+	−	−	−
	Transcription (symbols)	+	+	+	+	−	+	+	+	+	+

(continued)

Table 2 (continued)

	Benni (1924)	Boniakowski (1946)	Jassem (1964) [1954]	Bałutowa (1990) [1965]	Reszkiewicz (1965)	Krzeszowski (1968)	Jassem (1993) [1971]	Janicki (1989) [1977]	Gibińska–Mańkowska (1978)	Wolak (1992) [1978]	Gibińska–Mańkowska (1980)
	Transcription (practical material)	+	−	+	+	−[e]	+	+	+*	+*	+
	British versus American: differences	−	−	−	−	−	−	+*	+	−	−

	Reszkiewicz (1984)	Wełna (1982)	Arabski (1987)	Jassem (1995)	Szpyra-Kozłowska–-Sobkowiak (2011) [1995]	Sobkowiak (1996)	Sobkowiak (2000)	Miatluk et al. (2008)	Mańkowska et al. (2009)	Sawała et al. (2009)	Nowacka et al. (2011)	Porzuczek et al. (2013)
Segments	Vowels	+	−	+	−	+	+	+	+	+[b]	+	+
	Consonants	+	−	+	−	+	+	+	+	+	+	+
	Final voicing	+	−	−	−	+*	+	+	−	+	+	−
Suprasegments	Syllable	+*	+*	−	−	+	+	−	+	−	−	−
	Word stress	+	−	+	+	+	+	+	+	+	−	−
	Sentence stress	+	−	+	−	+	−	+	+	−	−	−
	Assimilation	−	−	−	−	+	+	+	−	+	−	−
	Elision	−	−	−	−	+	+	+	−	+	−	−
	Linking	+	−	−	−	+	+	−	−	+	+	+
	Weak forms	+	−	+	−	+	+	+	−	+	−	+
	Rhythm	+	−	−	+	+	−	+	+	+	−	−
	Tones and tunes	+	−	−	+	−	−	−	+	−	−	−
	Sentence intonation	+	−	+	+	+	−	+	+	−	−	−
	Fluency of speech	−	−	−	−	+	+	−	−	−	−	−
General phonetics	Introduction to phonetics	−	−	−	−	+	+	−	−	−	−	−
	The organs and speech mechanics	+*	−	−	−	+	+	−	−	−	+*	−
	Spelling-to-sound correspondence	+	+	+	+	+	+	+	−	−	+*	+
	Transcription intro	−	−	−	−	+	+	+	−	−	−	−

(continued)

Table 2 (continued)

	Reszkiewicz (1984)	Wełna (1982)	Arabski (1987)	Jassem (1995)	Szpyra-Kozłowska—Sobkowiak (2011) [1995]	Sobkowiak (1996)	Sobkowiak (2000)	Miatluk et al. (2008)	Mańkowska et al. (2009)	Sawała et al. (2009)	Nowacka et al. (2011)	Porzuczek et al. (2013)
	Transcription (symbols)	+	+	+	+[d]	+	+	+	+	+	+	+
	Transcription (practical material)	−	+*	−	+	+	+	−	+*	+	−	+*
	British versus American: differences	−	+	−	−	+	−	+	−	−	+	−

[a] An asterix, when placed next to a plus, means that only selected aspects of this issue are presented in a book or that a topic is covered only partially, not as a separate section

[b] Trighthongs are not included

[c] Bałutowa (1990) [1965] does not discuss intrusive r

[d] Jassem (1995) uses his own set of phonemic symbols

[e] In Reszkiewicz (1965) the material on weak forms is occasionally transcribed

skeleton in a phonetics study. Therefore, within segmental phonetics we distinguish three aspects (fundamental vowels and consonants as well as final voicing) as examples of negative transfer from the Polish interference point of view. Supra-segmental features form the more numerous category and include the following eleven elements: syllable, word stress, sentence stress, assimilation, elision, linking, weak forms, rhythm, tones and tunes, sentence intonation and fluency of speech. Finally, the last group comprises some areas of general phonetics in which we have selected such topics as: introduction to phonetics, the organs and mechanics of speech, spelling-to-sound correspondence, introduction to transcription, transcription symbols, transcription of practical material and the comparison of British and American English.

It needs to be added that Jones' (1997) and Wrembel's (2004) publications on the methods of teaching pronunciation and the type of activities in the contemporary phonetic textbooks worldwide were a stimulus for my examination of the similar texts in the Polish context.

3 Results

To begin with the date of publication, as presented in Fig. 1, the greatest number of books, namely five, found their way into the market in the 80s. We can see that there was a rise in the 60s, from 1 to 3 and then, after a stable decade, another rise from 3 to 5 between the 70s and 80s. The first decade of the 21st century welcomed 4 resources and the second decade so far has gathered 2 but it is too early to speculate how it is going to develop.

The second criterion concerns the model variety of English chosen for the purpose of description. In Fig. 2 we can clearly see that an overwhelming number of Polish textbook writers, 83 % (19), lean towards the British standard. A discussion of General American is undertaken twice by Krzeszowski (1968) and Arabski (1987) and the two model varieties are presented simultaneously in Janicki (1989) and Sawała et al. (2009).[2]

The resources under investigation can be divided according to the purpose they serve. Some are designed as theoretical foundation books, others as practical phonetics workbooks and the last category encompasses both phonetic theory and practice. Figure 3 shows that all types of books are proportionally distributed with a slight minority of phonetics textbooks with a sole focus on theory, below the ones with a practical and a combined practical–theoretical goal.

The number of textbooks combining theory and practice as well as the ones with a solely practical phonetic component is the same (8). The textbooks which include explicit phonetics instruction with practical pronunciation exercises constitute the

[2] Biedrzycki's (1995) pronunciation dictionary exemplifies both General American and British pronunciation.

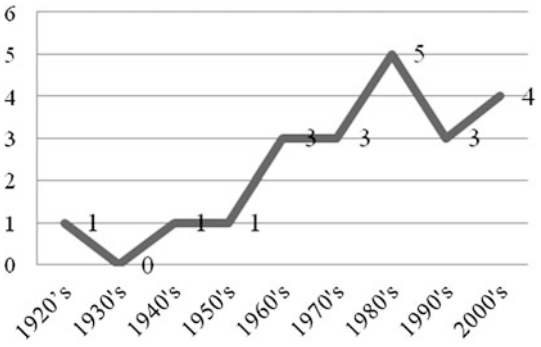


Fig. 1 The number of phonetics books published in Poland from 1920s to 2000s

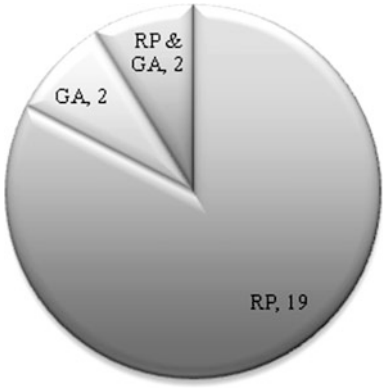


Fig. 2 The model English variety: RP, GA, or RP and GA in the examined phonetic textbooks

Fig. 3 The proportion of theory-oriented textbooks, practical pronunciation courses and textbooks of theory and practice combined

following group: Jassem (1964) [1954], Bałutowa (1990) [1965], Reszkiewicz (1984) [1981], Jassem (1993) [1971], Arabski (1987), Sobkowiak (1996, 2000), Porzuczek et al. (2013). The pronunciation practice books, handbooks, workbooks and software were written by Gibińska and Mańkowska (1978, 1980), Wolak (1992) [1978], Jassem (1995), Szpyra-Kozłowska and Sobkowiak (2011) [1995],

Mańkowska et al. (2009), Nowacka et al. (2011) and Sawała et al. (2009). The textbooks which provide a theoretical background to English phonetics include: Benni (1924), Boniakowski (1946), Reszkiewicz (1965), Krzeszowski (1968), Janicki (1989), Wełna (1982) and Miatluk et al. (2008).

When it comes to the scope of discussion most of the analysed materials are of a comprehensive character with only a few exceptions, e.g. Boniakowski (1946) which was meant as a brief overview of rudimentary knowledge of phonetics or Janicki (1989) which is an introductory course into the differences between British and American English. The descriptive and prescriptive discussion of phonetics and/or pronunciation practice is the focal point of the majority of these publications. Some of the analysed resources, however, cover other issues, e.g. grammar (Boniakowski, 1946); spelling, vocabulary, phraseology and grammar (Janicki, 1989 [1977]).

As regards the language of presentation used for the purpose of description, the textbook writers fluctuate from English to Polish (see Fig. 4). We can observe a small advantage of materials written in English (13) over the ones in which the Polish language serves as the language of discussion (10). The resources written in English include the following: Krzeszowski (1968), Janicki (1989) [1977], Gibińska and Mańkowska (1978, 1980), Wolak (1992) [1978], Wełna (1982), Reszkiewicz (1984), Jassem (1995), Szpyra-Kozłowska and Sobkowiak (2011) [1995], Sobkowiak (1996), Miatluk et al. (2008), Mańkowska et al. (2009) and Nowacka et al. (2011). On the other hand, the Polish language characterizes the materials by Benni (1924), Boniakowski (1946), Jassem (1964), Bałutowa (1990) [1965], Reszkiewicz (1965), Jassem (1993) [1971], Arabski (1987), Sobkowiak (2000), Sawała et al. (2009) and Porzuczek et al. (2013).

An overwhelming number of these materials are addressed specifically to the needs of the Polish learner, the authors frequently make this clear in the title (Szpyra-Kozłowska and Sobkowiak, 2011 [1995]; Sobkowiak, 1996; Porzuczek et al., 2013) or in the preface, e.g. Reszkiewicz (1984) [1981], Mańkowska et al. (2009). Other resources, in which there is no Polish–English contrastive approach

Fig. 4 The language of instruction: English versus Polish

Fig. 5 The language advancement of the target audience in phonetics books

applied, seem to have a general English learner of no defined L1 in mind, e.g. Janicki (1989) or Jassem (1995).

Sometimes the target audience is explicitly referred to by the course-writers. This is done by specifying the requirements of readers' language advancement, their minimum knowledge of phonetics, or their level of education whether secondary, tertiary or, more precisely, college and university English Departments. Figure 5 presents the results of the targeted readership.

Most of the books (10) are targeted at an intermediate and advanced learner, sometimes called an average English learner, e.g. in Sobkowiak (1996). Then, a large proportion of courses (7), especially the ones written in Polish, cater for the needs of a wide array of learners, from ones with no prior knowledge of phonetics (here referred to as 'beginners') to ones who want to deepen or refresh their know-how. The remaining three categories encompass books for advanced phonetics readers (3) or ones for the beginners in the field. In addition, in most of the examined materials a university student of an English Department is considered a prospective user (Jassem, 1964 [1954], 1993 [1971]; Krzeszowski, 1968; Gibińska & Mańkowska, 1978, 1980; Wolak, 1992 [1978]; Reszkiewicz, 1984 [1981]; Wełna, 1982; Arabski, 1987; Szpyra-Kozłowska & Sobkowiak, 2011 [1995]; Sobkowiak, 1996; Mańkowska et al., 2009 and Porzuczek et al., 2013).

What has also been examined is the accompanying materials in the form of recordings, multimedia or additional/appendix sections. For obvious reasons the books published early in the first half of the 20th century did not include recorded material.[3] The general trend, outlined in Table 1, is that, beginning with Sobkowiak's (2000) on-line publication, in all phonetically-oriented resources, with the exception of Miatluk et al. (2008), recording of the practical material constitutes an inseparable part of a course. The sound carrier, as one can expect, changed over time, from tapes (Bałutowa, 1990 [1965]; Arabski, 1987) through CDs

[3] No exact data on the dates of tape recording release accompanying, e.g. Bałutowa's (1965) course are available to me. In the course by Janicki (1989) some reference is made to the recordings; however, I found no trace of a commercially-available recorded product.

(Mańkowska et al., 2009; Nowacka et al., 2011; Porzuczek et al., 2013) to a DVD in Sawała et al. (2009) which should be distinguished here as the only multimedia course in the Polish phonetic market.

Nearly half of the above-mentioned textbooks include a selection of useful additional phonetics materials. The issues covered, presented in Table 3, range from purely practical, e.g. homophones, homographs, silent letters, proper names, place-names, text for analysis or a reading passage with rhythmic and intonation marks, etc., to more explicit phonetic rules, such the pronunciation of the *–ed* ending of regular verbs, the *–(e)s* plural ending of nouns, the *–(e)s* ending of the 3rd person singular or the *'s* genitive ending of nouns.

Next, we concentrate on phonetics issues covered by the textbooks. As might be expected, the content in all these resources is not uniform and differs in, for example, the choice and arrangement of the material, which reflect not only the needs of the reader but also the preferences of the author. To be able to make some generalizations concerning the distribution of the phonetic material in the selected resources and to see which aspects attract more attention and which are less popular we have tabulated the overall results in Table 4.

As can be seen from the data, the first nine aspects can be found in most phonetics courses. The introduction of transcription symbols is a textbook core element, present in nearly all of the materials (96 %). Then, unsurprisingly, it is the basic segments: vowels and consonants, which are discussed in 78 % of the texts. Nearly three-quarters of the books (74 %) include transcription of the practical material. In 65 % of the resources a focus on word stress is found. Other significant components comprise: final voicing and spelling-to-sound correspondence (61 %) as well as two suprasegmental topics of weak forms and rhythm (56.5 %).

On the other hand, the remaining twelve topics score less than 50 %, which means that they constitute part of the content in fewer than half of the analysed resources. This list encompasses: four connected speech elements, i.e. linking (48 %), elision (26 %), assimilation (22 %) and fluency of speech (17 %); four prosodic features of sentence intonation (48 %), sentence stress (39 %); syllable (30 %) and tones and tunes (30 %); and finally, four mostly descriptive topics, in the form of the organs and mechanics of speech (39 %), introduction to transcription (35 %), introduction to phonetics (26 %) and the comparison of British and American English (26 %).

All things considered, we can make a few final generalizations about the structure and content of the analysed phonetic resources. In the 80s we observed the greatest number of phonetics books in the Polish market. In an overwhelming number of these textbooks one variety of English, in particular the British standard, is chosen as a model variety, less frequently it is General American. Other varieties do not appear in the textbooks. Moreover, most of these comprehensive resources are addressed specifically to the needs of Polish intermediate and advanced learners. These texts, which represent theoretical textbooks, practical workbooks or which are a combination of a theoretical and practical approach, are written in the native or the target language, with a slight majority of the English texts over the Polish ones. It seems that a recording of the practical material is an inseparable part of nearly all

Table 3 The content of appendices and additional sections of the textbooks

No.	Book by	Appendix/additional sections on
1.	Benni (1924)	Colloquial proper names Place-names
2.	Reszkiewicz (1965)	The analysis of the text, written in spelling in three versions: no phonetic marks, with rhythm marks and with intonation marks
3.	Krzeszowski (1968)	English and Polish segmental phonemes
4.	Wełna (1982)	Spelling and pronunciation in the history of English
5.	Reszkiewicz (1984)	A table of English consonants The speech organs in cross-section A text for analysis The *–ed* ending of regular verbs The *–(e)s* plural ending of nouns The *–(e)s* ending of the 3rd person singular The *'s* genitive ending of nouns
6.	Arabski (1987)	The most frequent homonyms The most frequent homographs Two texts in spelling for pronunciation and intonation practice Translation of the whole practical material in Polish
7.	Janicki (1989)	Notes on recordings of American and British speakers: Part 1: pronunciation—on the main segmental differences between the two varieties Part 2: stress, sentences 3 texts in spelling
8.	Sobkowiak (1996)	Irregular verbs Christian names Proper names Common English homographs Common English homophones Quasi-homophones in Polglish Sound frequency in English French loanwords Words commonly mispronounced
9.	Sobkowiak (2000)[a]	Main difficulties in the rendition of vowels, diphthongs and consonants Morphological alternations of diphthongs Silent letters Reduction of vowels Derived forms Syllabification
10.	Sawała et al. (2009)	Homophones Homographs Words and names frequently mispronounced Silent letters Prefixes Loanwords Websites: 4 British, 10 American Phonetic symbols

(continued)

Table 3 (continued)

No.	Book by	Appendix/additional sections on
11.	Porzuczek et al. (2013)	English vowels and diphthongs in different contexts, e.g. *bead*, *bid*, *bed*, etc. Transcription: word-reading, e.g. /lest, kæptʃə/, etc. Pairs of words with different vowel combinations, e.g. /i:, ɪ/*feed pigs*, etc. Pronunciation of words spelled with *–ough* Pronunciation of /j/before/u:/

[a] Sobkowiak (2000) is an on-line course with non-linear footnotes (recordings, hyperlinks, explanation of the terms in a mini-lexicon). Since there are no sections corresponding to an Appendix in a book we include examples of topics that are not usually included by other authors. The learners do not have to cover the book in turn, unit by unit, but they may familiarize themselves with the topics of their choice

Table 4 Focus on the content: the choice and corresponding percentage of phonetic issues in the examined phonetic resources

No.	Phonetic issues	*n*	%
1.	Transcription (symbols)	22	96
2.	Vowels	18	78
3.	Consonants	18	78
4.	Transcription (of the practical material)	17	74
5.	Word stress	15	65
6.	Final voicing	14	61
7.	Spelling-to-sound correspondence	14	61
8.	Weak forms	13	56.5
9.	Rhythm	13	56.5
10.	Linking	11	48
11.	Sentence intonation	11	48
12.	Sentence stress	9	39
13.	The organs and mechanics of speech	9	39
14.	Transcription introduction	8	35
15.	Syllable	7	30
16.	Tones and tunes	7	30
17.	Elision	6	26
18.	Introduction to phonetics	6	26
19.	British versus American: differences	6	26
20.	Assimilation	5	22
21.	Fluency of speech	4	17

the materials published in the 21st century. They are typified by the application of additional sections and practical exercises for further study. As regards the phonetic content the issues which are most often represented involve: phonetic symbols, spelling-to-sound rules, transcription of the practical material, the discussion of vowels and consonants, the importance of final voicing, word stress and only two suprasegmental units, namely weak forms and rhythm. The aspects of fast, colloquial speech and prosody have a lower frequency of occurrence.

4 A Contrastive Look at TRAP Teaching in the Past and at Present

The changing methodological trends in FL pedagogy over the last nine decades affect pronunciation treatment in a variety of ways. In this section I will make an attempt at taking a comparative look at the treatment of TRAP in a sample of six teaching resources through the time.

The selection of the TRAP vowel for the analysis is due to its notoriety in the context of learning it by Poles. As has been confirmed by Jassem (1993), Sobkowiak (1996), Nowacka (2008) and Gonet et al. (2010), TRAP, non-existent in the Polish vocalic system, is frequently replaced by Polish equivalents [e] and [a].

For this analysis we have examined six resources published over the period of 90 years, characteristic for the 20s, and then for each decade from the 70s to the present time, which comprise: Benni (1924), Jassem (1993) [1971], Reszkiewicz (1984) [1981], Sobkowiak (1996), Mańkowska et al. (2009), Sawała et al. (2009) and Porzuczek et al. (2013).

Benni (1924) calls TRAP the relatively easiest vowel in the group of TRAP, STRUT and COMMA. He transcribes it by means of a symbol /ä/, gives it a name of a 'short English a,' makes a reference to its intermediate perceptive and productive value between Polish /e/ and /a/ as well as to its most characteristic spelling represented by the letter 'a'. He also comments on the spelling-based Polglish /a/-like pronunciation of TRAP, e.g. in *man* as well as on the Polglish /e/-like rendition of it, adopted by the Polish language in borrowings from English, e.g. in *mecz* from *match.* Some hints on its correct articulation are also provided in relation to the tongue movements, raising the tongue for /e/, lowering it for /a/ and thus finding an intermediate place for a new TRAP category. To facilitate a correct enunciation of this sound for a Polish learner, Benni gives examples of Polish words in which the quality of /a/ resembles *ash*, owing to the coarticulation in the context of /j/ and /i/ and the raising and fronting of the tongue position, e.g. in *jajko* (egg), *jaśmin* (jasmine) or *niańka* (nanny).

Jassem (1993) [1971] in his succinct description, uses a symbol of /ɛ/, and refers to two realisations of the TRAP phoneme, the one before /l/ and in other contexts. To exemplify the former occurrence he provides two sentences with transcription, in which *canal* and *pals* serve as examples of its retracted quality, with an intermediate value between Polish /e/ and /a/. The latter case is represented by words,

such as *back*, *cat*, *match*, *national* and *matter*. Jassem's suggestions on articulation of this variant are that it is closer to /e/ than to /a/ and should not be treated as an intermediate sound between Polish /e/ and /a/ which is true only for the context before /l/. A graph with a vowel quadrilateral, representing the said TRAP variants and the Polish vowels /a/ and /e/ is also shown. The practice of this sound included in the activities at the end of the book involves a drill of words.

Reszkiewicz (1984) apart from a descriptive and prescriptive instruction on TRAP articulation, includes a cross-section of the head with the tongue position characteristic for this vowel and a photograph that shows its spread lip postulation. He remarks (1984, p. 36) that it should not be referred to as being in between Polish /e/ and /a/ "because it is more front than *a* and lower than *e*". Then he focuses on TRAP distribution and gives some examples of words and notes on the following context: before voiced consonants as in *bad,* where it is prolonged, before nasals, e.g. *man* in which no nasalization of a vowel should occur, on the length differences in monosyllabic and longer words, e.g. *hand* versus *habit*. Some minimal pairs activities are also included, where TRAP is contrasted with DRESS, then STRUT, and also with KIT.

Sobkowiak's (1996) instruction on TRAP makes an account of its articulatory similarity to the Polish /e/ and /a/, and comments on its very distinctive timbre, which causes some difficulty to learners. A reader can also find a description of the distribution of this sound in stressed but also unstressed syllables of English words, the latter case contributing to a likely Polglish mistake, e.g. in *triAngle*. This information is supported by a long list of examples of words, arranged in order of frequency of occurrence. The remaining part of the unit is devoted to the spelling-to-sound correspondence and its most likely representation of the letter 'a'. The dual pronunciation of the letter 'a' before the letters 's' and 'n' is commented on, in which one can find either TRAP or BATH, as in *gas* versus *last* or *can* versus *answer*. This description is followed by an impressively large bank of words for imitation practice. It needs to be emphasised that Sobkowiak's textbook stands out from the rest thanks to its application of a computer-readable dictionary of English which allowed for the provision of large portions of practical material arranged according to the order or frequency, from the most frequent to the rarest ones. Sobkowiak (1996, p. IX) also deliberately cuts off from the audio-lingual drill practice and applies a cognitive approach where "the automatization of proper pronunciation habits is seen as coming **after** the learners' realization of **what** it is that they are trying to achieve, and **how** they can best try to achieve it."

Mańkowska et al. (2009) in their pronunciation practice book with recordings, accompanying a descriptive grammar course, include a variety of lexical input and a wide range of varied drill tasks. The focus on the TRAP vowel consists of a brief description of the vowel, two sections named 'words for practice' with easy and harder words, sub-divided into groups according to the position of the stress and number of syllables in the word, exercises on vowel-clipping before a voiceless consonant, minimal pairs, sentences for practice (easy and more difficult), deceptive spelling, proper names (including personal names and place names), proverbs, tongue twisters as well as rhymes and limericks.

The contemporary materials by Sawała et al. (2009) and Porzuczek et al. (2013) deserve to be praised for their application of work on perception and self-monitoring activities. Sawała et al. (2009) is a multimedia course, incorporating two varieties, General British and American. Apart from a description of an articulation and a typical spelling corresponding to a sound, it includes movable head cross-sections showing the tongue position, a video recording of an individual sound and the same sound in a word, e.g. *abstract* for TRAP, which lets the learner see the shape of the lips when a sound is articulated. First, attention is drawn to repetitive drills of sounds in words of various kinds comprising proper names, surnames, place names, phrases, sentences and minimal pairs. Then, work on perception involves a task on minimal pairs of words, phrases and sentences in which a learner is asked to mark the correct version. Finally, the unit finishes with a self-evaluation activity, prepared in the form of imitation of a model pronunciation, ending with the user recording their own voice and eventually comparing the two versions, which makes them actively involved in taking care of their own pronunciation in English.

Porzuczek et al. (2013) start with presentation of the difference in the articulation of TRAP and DRESS and their differences from Polish /e/ and /a/ qualities by means of a vowel quadrilateral. They introduce TRAP and DRESS in the same unit, first separately and then together. They start with a brief description then move to pronunciation of the sound by making it contrast with the Polish /ɛ/ and /a/, and then introducing an intermediate category for *ash*. Then they proceed to the typical spelling of TRAP with a letter 'a', e.g. *fat*, to some exceptions in a certain context, e.g. pronouncing */a:/* before *–st* as in *fast,* some trap words like *plait* and an exercise in which Polish and English words are pronounced interchangeably and minimal pairs of TRAP, DRESS and a Polish /a/ are formed. Then in the following subsection the two vowels are practised together in word-reading tasks, in minimal pairs, in phrases and sentences. Work on these vowels is summed up by a review exercise, in which the previously studied sounds appear together with the newly learnt TRAP and DRESS. Students are asked to transcribe the words they hear, to decide whether a heard syllable corresponds to Polish or English, to repeat the words after the model and to compare their own pronunciation with the model one as well as to transcribe the sentences.

To recap, it is evident that the description of TRAP articulation, distribution and spelling representations prevail in the above-mentioned materials. Some courses make use of a vowel quadrilateral to visualize an English, as distinct from Polish, enunciation of this vowel. They also include cross-sections of the head and photos and videos of lips, with a recording of a given sound in isolation and in a word to make the position of the tongue and lips clearer to the learner. It is visible that drill, repetitive, habit-formation exercises are common in the work on production of a sound. We also observe a variety of tasks and richness in the lexical input (proper names, place names, tongue twisters, proverbs, limericks and rhymes). None of the examined courses implemented the communicative approach to pronunciation teaching, i.e. a practice of the said sound in a free speech context. What should be stressed is that in the recently published resources, attention is also drawn to the value of perceptive discrimination tasks and also to self-assessment of a learner's

pronunciation. A recording of the practical material constitutes an inseparable part of the recent courses, which makes pronunciation study more learner-friendly as the user is freed from an over-reliance on transcription.

5 Discussion

Since it is not my intention to criticize any of the books for their layout, I much prefer to point to the areas which have not been explicitly covered by the textbook writers and which could be considered in future pronunciation course-books. The findings of our analysis point to the leading role of segments in the phonetic syllabus. Only some of the recent publications, e.g. Szpyra-Kozłowska and Sobkowiak (1995), Sobkowiak (1996, 2000), Mańkowska et al. (2009) and Porzuczek et al. (2013), note the importance of suprasegmentals and in particular connected speech elements such as linking, elision and assimilation and also draw the learner's attention to fluency of speech (Porzuczek et al., 2013).

Only a small proportion of the recently published texts include examples of colloquial fast speech (Sobkowiak, 2000; Mańkowska et al., 2009 and Porzuczek et al., 2013) to enhance the learners' comprehension of spoken English. This latter adaptation agrees with the research findings by Shockey (2003, p. 124) who advocates including the perceptive analysis of conversational speech in English courses since she claims "exposure to a range of inputs which are phonetically different but phonologically the same will aid in overall comprehension of naturally-varying native speech." She also suggests that the explicit teaching of phonological reductions may boost a foreigner's understanding of the spoken message. On the basis of a series of experiments Shockey (2003, 2006, 2008) states that interpretation of conversational input is a lengthier process for non-native speakers since they need more acoustic-phonetic input and depend on syntactico-semantic information rather than a phonological context to comprehend connected speech rich in reductions. Shockey (2011, p. 29) makes a valuable observation on the teaching of connected speech by saying that "in my experience, English teachers shy away from teaching 'sloppy' pronunciation and hence aim for a style which is overly articulated. But in doing so, they avoid exposing students to exactly the style they will need to deal with in everyday conversations." All of this just proves that an explicit focus on reduction processes should find its due place in phonetics textbooks since it might lead learners to better understand the spoken message.

We have also observed that what has not been much covered in the research corpus of the textbooks is the contrastive L1–L2 analysis of intonation, with the exception of Miatluk et al. (2008) and Porzuczek et al. (2013). English tones and tunes and sentence intonation, have been dealt with by Jassem (1964, 1993, 1995) Reszkiewicz (1965, 1984), Janicki (1989), Arabski (1987), Szpyra-Kozłowska and Sobkowiak (1995) and Sobkowiak (2000). We can see a discrepancy in the treatment of intonation and nuclear stress between Wrembel's (2004, 2008) and our findings. In her study of phonetic resources with no particular L1 in mind,

intonation and sentence stress ranked highly as one of the most frequently presented issues in the majority of the examined publications, while in our research these features belong to the less likely topics of discussion.

Jones' (1997) speculation concerning the greater concern for voice quality, as evidenced in Jones and Evans (1995) has not been supported in my analysis since this topic is not covered by the text-book writers. This does not mean that voice quality settings for Poles have not been researched. Święciński (2004, 2006, 2013) in a series of studies has compared Polish and English articulatory settings; however, as has been evidenced these findings have not yet made their way into phonetics textbooks for the Polish audience.

Some of the books we have examined, especially new publications by Sawała et al. (2009) and Porzuczek et al. (2013), have follow-up self-assessment activities where the explicit knowledge can be put into practice by self-monitoring. For example, Sawała et al. (2009) gives learners a chance to record themselves and to compare their pronunciation with a native speaker's model. Porzuczek et al.'s (2013) course incorporates consciousness-raising and self-monitoring activities, in which they ask a learner to record their pronunciation after listening to the model pronunciation and imitating it with the help of the text in transcription. This technique is in line with Jones' (1997) call for the incorporation of reflective and confidence building activities in the course of pronunciation training.

It is also apparent that all the corpus textbooks organize the course according to the tradition phonological categories, such as segments, suprasegments, etc. not on discourse function such as highlighting or questioning, etc. which is characteristic for Bradford's (1988) and Brazil's (1994) books on intonation.

Celce-Murcia et al.'s (2010) Communicative Framework, in which pronunciation tasks are intertwined with grammar or vocabulary practice in a communicative activity, has not found its place in the analysed phonetics teaching materials. The widespread reliance on decontextualized language and lack of grounding in the realities of actual communication is still the greatest weakness of the analysed pronunciation materials. Jones (1997, p. 109) comments that "absent from most materials is the opportunity for freer practice which allows students to participate in discourse situations that exemplify a variety of suprasegmental features, such as the free conversation and 'fluency workshop' activities…". Gabryś-Barker (2011, p.136) stresses the over-use of drill-like pronunciation activities with the focus on segments and adds that "the priority should be given to prosodic (suprasegmental) features of language as enabling language users/learners to function in a variety of contexts: from real-life situations of daily interactions to academic and professional environments". In general what we have also observed is that the omnipresent, mechanical and repetitive practice of sounds is very seldom followed by real communicative practice of the same material. This could easily be changed if follow-up communicative pronunciation-oriented activities were added to the new editions of the practice book.

It should not be a surprise that the phonetics textbook writers limit their description and do not include some useful aspects like articulatory settings or a more communicative approach in teaching pronunciation. If one knows the Polish

context, meaning the low number of hours that phonetics teachers have at their disposal, it is no wonder that course-book authors resort to the absolute minimum of the issues covered. Baran-Łucarz (2006) presents the situation of pronunciation teaching at schools of higher education, which is even truer at present. Among other things she states that the number of hours devoted to phonetics is notoriously low in comparison with other practical skills, the criteria concerning the phonetic component in an oral exam are impressionistic and vague, and there is no practical phonetics in the syllabus of postgraduate courses aimed at teachers or even in methodological textbooks targeted at teachers of the languages, not to mention the requirements for Cambridge exams and the Polish secondary school leaving exam.

This rather pessimistic picture of the treatment of pronunciation in Polish educational institutions is still valid. Pronunciation, it seems, at least in the minds of the authorities responsible for national language syllabi for secondary school leaving exams and for the programmes of university students of English Departments, is not regarded as an essential part of language education.

6 Conclusions

What we have not done in this paper and what could be examined in the future is analyse the type of activities implemented in the phonetics textbooks, which was undertaken in similar studies by Jones (1997) and Wrembel (2004). My preliminary observation, which goes in line with the findings of the above-mentioned authors, is that most of the materials in this analysis rely on the audio-lingual habit-formation tasks, which from my point of view as a teacher of phonetics and an author, should not be regarded as a major flaw. The textbook writers, instead of giving up the much favoured and useful repetition tasks, which undeniably have their place in pronunciation study, could think of enriching their resources with awareness-building and self-checking tasks. Another modification that could be introduced is the inclusion of communicatively oriented phonetic activities or suggestions on how the material under study could be practised in a free speech context. What seems to be missing in these publications is a focus on suprasegments and especially a practical contrastive Polish–English approach to connected speech and prosody features. None of the examined materials exposed the learners to a variety of English different from British and American or presented the phonetic rules more inductively through discovery activities, which, as suggested by Jones (1997), have plenty of advantages, e.g. making the new knowledge more memorable and providing the opportunity for communication.

Taking into consideration the research findings on the beneficial role of accent-varied input on learners' perception and thus understanding of English we can hope that it will be reflected in future textbooks addressed to Polish readers. If some of these changes were introduced in the next editions of these already-existing resources we would have a chance to verify in time whether, as advocated by current teaching methods and mainstream trends in phonetics teaching, a top-down, communicative

approach to learning pronunciation is more effective than the prevailing traditional drill-based, but so far quite fruitful, way of pronunciation teaching.

Acknowledgments I would like to thank Professor Sobkowiak for the inspiration to write this article, which stemmed from the reading of his *English phonetics for Poles* textbook, in particular from the issues he deals with in the preface and bibliography sections, and also from his numerous stimulating conference presentations which I have been fortunate enough to attend.

References

Arabski, J. (1987). *Wymowa amerykańska*. Warszawa: Wiedza Powszechna.

Ashby, M., & Przedlacka, J. (2013). Towards a history of teaching, learning and assessment in phonetics. In J. Przedlacka, J. Maidment, & M. Ashby (Eds.), *Proceedings of the Phonetics Teaching and Learning Conference* (pp. 11-14). London: Phonetics Teaching and Learning Conference Chandler House. http://www.ucl.ac.uk/psychlangsci/ptlc/proceedings_2013/proceedings_2013. Accessed 1 April 2014.

Bałutowa, B. (1990) [1965]. *Wymowa angielska dla wszystkich*. Warszawa: Wiedza Powszechna.

Baran-Łucarz, M. (2006). Prosto w oczy – fonetyka jako Michałek na studiach filologicznych? In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce*, (pp. 7-17). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Benni, T. (1924). *Ortofonja agielska: Podręcznik wzorowej wymowy oraz słownik fonetyczny.* Lwów-Warszawa: Książnica Polska.

Biedrzycki, L. (1978). *Fonologia angielskich i polskich rezonantów*. Warszawa: Państwowe Wydawnictwo Naukowe.

Biedrzycki, L. (1995). *A practical pronouncing dictionary of British and American English: Słownik wymowy brytyjskiej i amerykańskiej.* Warszawa: Wydawnictwo Naukowe PWN.

Boniakowski, F. (1946). *Krótki przegląd gramatyki oraz wymowy angielskiej*. Chorzów: Spółdzielnia Uczniowska "Spójnia".

Bradford, B. (1988). *Intonation in context: Intonation practice for upper-intermediate and advanced learners of English*. Cambridge: Cambridge University Press.

Brazil, D. (1994). *Pronunciation for advanced learners of English*. Cambridge: Cambridge University Press.

Celce-Murcia, M., Brinton, B., Goodwin, J., & Griner, B. (2010). *Teaching pronunciation: A coursebook and reference guide*. Cambridge: Cambridge University Press.

Dłutek, A. (2006). Rola elementu fonetycznego w nowym egzaminie maturalnym. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku*, *Dydaktyka fonetyki języka obcego, Soczewka 25-27 kwietnia 2005* (pp. 321-331). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Gabryś-Barker, D. (2011). Phonological issues in second language acquisition studies: Focus area and implications for FL instructional practices. In J. Arabski, & A. Wojtaszek (Eds.), *The acquisition of L2 phonology* (pp. 123-137). Bristol: Multilingual Matters.

Gibińska, M., & Mańkowska, A. (1978). *English pronunciation practice: Wymowa angielska w ćwiczeniach. Skrypty uczelniane, No. 291*. Kraków: Uniwersytet Jagielloński.

Gibińska, M., & Mańkowska, A. (1980). *English pronunciation practice*: *Wymowa angielska w ćwiczeniach*, *Part II, Skrypty uczelniane, No. 342*. Kraków: Uniwersytet Jagielloński.

Gonet, W., Szpyra-Kozłowska, J., & Święciński, R. (2010). Clashes with ashes. In E. Waniek-Klimczak (Ed.), *Issues in accents of English 2: Variability and norm* (pp. 213-231). Newcastle upon Tyne: Cambridge Scholars Publishing.

Henderson, A., & Jarosz, A. (2013). O wherefore art thou, communicative approach? English pronunciation in French and Polish school textbooks. Paper presented at *7th International Conference on Native and Non-native Accents of English*, University of Łódź, 5-7 December 2013, Book of abstracts, 18-19. Łódź: University of Łódź. http://filolog.uni.lodz.pl/accents/Abstracts-2013.pdf.

Janicki, K. (1989) [1977]. *Elements of British and American English*. Warszawa: Państwowe Wydawnictwo Naukowe.

Jassem, W. (1951). *Intonation of conversational English: educated Southern English*. Wrocław: Wrocławskie Towarzystwo Naukowe.

Jassem, W. (1964) [1954]. *Fonetyka języka angielskiego*. Warszawa: Państwowe Wydawnictwo Naukowe.

Jassem, W. (1987) [1983]. *The phonology of modern English*. Warszawa: Państwowe Wydawnictwo Naukowe.

Jassem, W. (1993) [1971]. *Podręcznik wymowy angielskiej*. Warszawa: Państwowe Wydawnictwo Naukowe.

Jassem, W. (1995). *Exercises in English pronunciation*. Warszawa: Wydawnictwo Naukowe PWN.

Jones, R. H. (1997). Beyond 'listen and repeat': pronunciation teaching materials and theories of Second Language Acquisition. *System, 25(1)*, 103-112.

Jones, R. H. & Evans, S. (1995). Teaching pronunciation through voice quality. *ELT Journal, 49 (3)*, 244-251.

Krzeszowski, T. P. (1968). *An outline of American English phonetics: Book 1*. Warszawa: Państwowe Wydawnictwo Naukowe.

Mańkowska, A., Nowacka, M., & Kłoczowska, M. (2009). "*How much wood would a woodchuck chuck?": English pronunciation practice book.* Rzeszów: Konsorcjum Akademickie.

Miatluk, A., Szymaniuk, D., & Turłaj, O. (2008). *Contrastive phonetics of English and Polish: Phonetic interference*. Białystok: Trans Humana Wydawnictwo Uniwersyteckie.

Nowacka, M. (2008). *Phonetic attainment in Polish university and college students of English: a study in the productive and receptive pronunciation skills.* Unpublished Ph.D. dissertation. Lublin: Uniwersytet Marii Curie-Skłodowskiej.

Nowacka, M., Cymbalista, P., & Kleparski, G. A. (2011). *Sally meets Harry: Practical primer to English pronunciation and spelling*. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.

Oxenden, C., & Latham-Koening, Ch. (2004). *New English file elementary*. Oxford: Oxford University Press.

Pawlak, M. (2010). Teaching foreign language pronunciation: Issues in research focus and methodology. In E. Waniek-Klimczak (Ed.), *Issues in accents of English 2: Variability and norm* (pp. 169-183). Newcastle upon Tyne: Cambridge Scholars Publishing.

Pennington, M. C. (1996). *Phonology in English language teaching: An international approach*. London: Longman.

Pennington, M. C. (1989). Teaching pronunciation from the top down. *RELC Journal, 20(1)*, 20-38.

Pennington, M. C. & Richards, J. C. (1986). Pronunciation revisited. *TESOL Quarterly, 20(2)*, 207-225.

Porzuczek, A., Rojczyk, A., & Arabski, J. (2013). *Praktyczny kurs wymowy angielskiej dla Polaków*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Puchta, H., & Stranks, J. (2004). *English in mind 1*. Cambridge: Cambridge University Press.

Reszkiewicz, A. (1962). *Correct your English I: artykulacja głosek angielskich wraz z ćwiczeniami*. Warszawa: Państwowe Zakłady Wydawnictw Szkolnych.

Reszkiewicz, A. (1965). *Correct your English II: akcent, rytm i intonacja zdania angielskiego*. Warszawa: Państwowe Zakłady Wydawnictw Szkolnych.

Reszkiewicz, A. (1963). *Correct your English III: Zbiór ćwiczeń wymowy głosek angielskich*. Warszawa: Państwowe Zakłady Wydawnictw Szkolnych.

Reszkiewicz, A. (1984) [1981]. *Correct your English pronunciation*. Warszawa: Państwowe Wydawnictwo Naukowe.

Sankowska, J. (2006). *Make progress in pronunciation.* Gdynia: Wydawnictwo Smartway.

Sawała, K., Szczegóła, T. & Weckwerth, J. (2009). *Say it right: Multimedialny kurs wymowy angielskiej*. Swarzędz: Oficyna Wydawnicza Atena Krzysztof Sawała i SuperMemo World sp. z o.o.

Shockey, L. (2003). *Sound patterns of spoken English*. Oxford: Blackwell.

Shockey, L. (2006). Teaching casual speech processes. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Płocku*, *Dydaktyka fonetyki języka obcego, Soczewka 25-27 kwietnia 2005* (pp. 155-165). Płock: Wydawnicwo Państwowej Wyższej Szkoły Zawodowej.

Shockey, L. (2008). Poles apart: Polish students of English excel in casual speech perception. In E. Waniek-Klimczak (Ed.), *Issues in accents of English* (pp. 33-43). Newcastle upon Tyne: Cambridge Scholars Publishing.

Shockey, L. (2011). Understanding L2 and the perspicacious Pole. In J. Arabski, & A. Wojtaszek (Eds.), *The acquisition of L2 phonology* (pp. 27-36). Bristol: Multilingual Matters.

Sobkowiak, W. (1996). *English phonetics for Poles*. Poznań: Bene Nati.

Sobkowiak, W. (2000). *Fonetyka angielska w pigułce 2.0*. Konin: Wydawnictwo Wyższej Szkoły Zawodowej. http://wa.amu.edu.pl/wa/files/ifa/pigulka/spis_tresci.htm. Accessed 14 April 2014.

Sobkowiak, W. (2002). Materiały ulotne jako źrodło metakompetencji fonetycznej (Raising phonetic awareness through trivia). In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyt Naukowy Instytutu Neofilologii Państwowej Wyższej Szkoły Zawodowej w Płocku Vol. 5*, *Dydaktyka Fonetyki Języka Obcego* (pp. 151-166). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Sobkowiak, W. (2012). This is Tom = /Zyzys'Tom/ Pronunciation in beginners' EFL textbooks then and now. *Research in Language 10(1),* 111-122. doi 10.2478/v10015-011-0028-7.

SOFRES. (2010). Textbooks 2010: Paper & digital uses in lower secondary schools (TNS Sofres/ Savoir Livre survey). http://www.sne.fr/img/file/pdf/SNE/Groupes/SOFRES-Digitools-Eng.ppt. Accessed 14 April 2014.

Szpyra-Kozłowska, J. (2003). Miejsce i rola fonetyki w międzynarodowych egzaminach Cambridge, TOEFL i TSE. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka Fonetyki Języka Obcego, Zeszyt Naukowy Instytutu Neofilologii Państwowej Wyższej Szkoły Zawodowej w Płocku Vol. 5* (pp. 81-191). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Szpyra-Kozłowska, J. (2008). English pronunciation pedagogy in Poland – Achievements, failures, and future prospects,. In E. Waniek-Klimczak (ed.), *Issues in accents of English* (pp. 212-234). Newcastle upon Tyne: Cambridge Scholars Publishing.

Szpyra-Kozłowska, J., Nowacka, M., Bąk, L., Chaber, I., & Święciński, R. (2003a). Priorytety w nauczaniu fonetyki języka angielskiego. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka Fonetyki Języka Obcego, Zeszyt Naukowy Instytutu Neofilologii Państwowej Wyższej Szkoły Zawodowej w Płocku Vol. 5* (pp. 211-223). Płock: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Szpyra-Kozłowska, J., Bąk, L., Chaber, I., Frankiewicz, J., Gonet, W., Nowacka, M., Pietroń, G., & Święciński, R. (2003b). Komponent fonetyczny w podręcznikach przygotowujących do egzaminów Cambridge (FCE, CAE, CPE). In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyt Naukowy Instytutu Neofilologii Państwowej Wyższej Szkoły Zawodowej w Koninie No. 2* (pp. 137-144). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Szpyra-Kozłowska, J., & Sobkowiak, W. (2011) [1995]. *Workbook in English phonetics: for Polish students of English*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej.

Szymańska-Czaplak, E. (2006). Nauczanie fonetyki w szkole na poziomie elementarnym – analiza wybranych podręczników do nauki języka angielskiego. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce* (pp. 231-238). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Święciński, R. (2004). Articulatory settings in Polish and its implications for teaching English pronunciation to Poles. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce, Zeszyt Naukowy instytutu Neofilologii (3)* (pp. 141-150). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Święciński, R. (2006). Teaching English articulatory settings features to Polish students of English – a study of phonation. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce* (pp. 203-215). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Święciński, R. (2013). An EMA study of articulatory settings in Polish speakers of English. In E. Waniek-Klimczak, & L. Shockey (Eds.), *Teaching and researching English accents in native and non-native speakers* (pp. 73-84). Berlin: Springer.

Waniek-Klimczak, E. (2005). *Temporal parameters in second language speech: An applied linguistic phonetics approach.* Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Warwick ELT archive. (2014). http://www2.warwick.ac.uk/fac/soc/al/research/col lect/elt_ archive/. Accessed 14 April 2014.

Wełna, J. (1982). *English spelling and pronunciation*. Warszawa: Państwowe Wydawnictwo Naukowe.

Wolak, R. (1963a). *Wymowa języka angielskiego w ćwiczeniach: Cz. 1, Dźwięki i akcent*. Kraków: Wydawnictwo AGH.

Wolak, R. (1963b). *Wymowa języka angielskiego w ćwiczeniach: Cz. 2, Rytm i intonacja*. Kraków: Wydawnictwo AGH.

Wolak, R. (1964). *Wymowa języka angielskiego w ćwiczeniach: Cz. 3, Akcent wyrazowy*. Kraków: Wydawnictwo AGH.

Wolak, R. (1965). *Wymowa języka angielskiego w ćwiczeniach: Cz. 4, Rytm i intonacja zdania*. Kraków: Wydawnictwo AGH.

Wolak, R. (1987) [1965]. *Wymowa języka angielskiego w ćwiczeniach: Cz. 1. Samogłoski; Cz. 2. Spółgłoski*. Kraków: Wydawnictwo AGH.

Wolak, R. (1992) [1978]. *Word stress in English: Systematization of structures with practical drills*. Kraków: Akademia Górniczo-Hutnicza, SJO.

Wrembel, M. (2004). Beyond 'listen and repeat' – an overview of English pronunciation teaching materials. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Dydaktyka fonetyki języka obcego w Polsce, Zeszyt Naukowy instytutu Neofilologii (3)* (pp. 163-180). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Wrembel, M. (2008). An overview of English pronunciation teaching materials. Patterns of Change: Model Accents, Goals and Priorities. In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: a changing scene* (pp. 421-437). Bern: Peter Lang.

Good Servants but Poor Masters: On the Important Role of Textbooks in Teaching English Pronunciation

Elina Tergujeff

Abstract Textbooks are the most commonly used teaching materials among European EFL teachers (Henderson et al., 2012), and it is undeniable that they have a central role in foreign language teaching overall. Scholars across time have claimed that the role of textbooks cannot be overestimated: textbooks determine a major part of classroom teaching (see Sobkowiak, 2012). This paper discusses the influence of textbooks in English pronunciation teaching in an EFL environment. It presents a study in which the occurrence of four typical pronunciation teaching task types and four pronunciation teaching topics were analysed in three data sources: textbooks, classroom observations, and learner interviews. The results indicate that textbooks do have an influence on teaching. This is clearly shown when it comes to task types or pronunciation teaching topics that are absent from the textbooks: they do not occur in the teaching either.

1 Introduction

This paper discusses, and seeks to provoke discussion on the important role of textbooks in ELT, especially in teaching English pronunciation. In the context of the present study, which is Finland, the teaching culture is overall very textbook-oriented: surveys have shown that almost all teachers use textbooks in their teaching (Luukka et al., 2008; Tergujeff, 2013), and that textbooks are considered the most important tool in classroom instruction (Luukka et al., 2008). In Finland, EFL textbooks are all-inclusive material packages that often include much more than just the textbook: in addition, teacher's guides, CDs, CD-ROMs, websites, video material, and ready-made exams are included or available for purchase at an extra price. The textbooks are designed for the Finnish context, and they should follow the themes of the national core curricula.

E. Tergujeff (✉)
University of Jyväskylä, Jyväskylä, Finland
e-mail: elina.tergujeff@jyu.fi

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_6

The beginning of a teaching career is demanding for the newly-graduated young teacher. In Finland, the amount of teacher training involving actual classroom teaching is relatively small. Hence, teachers usually enter the school world with little experience in teaching and with no routine (unless they have worked part-time or as substitute teachers during their studies). In such a situation, all-inclusive material packages, like the ones used in Finland, come to the rescue. However, the curriculum should set the objectives, and the teachers should determine the ways in which to reach the goals set in the curriculum, and choose appropriate tools. If the teacher blindly follows the textbooks, the textbooks get to set the objectives, possibly turning into "poor masters" instead of "good servants" (Cunningsworth, 1984, p. 1). Newly-graduated teachers are likely to take such steps, just as untrained teachers, who often rely too heavily on textbooks (Derwing & Munro, 2005). In fact, many scholars have written about the important role of textbooks in foreign language instruction (e.g., Sobkowiak, 2012; Chapelle, 2009; Bragger & Rice, 2000). Lent (2012, p. 2) even coined a special term *textbook fatigue,* which she describes as "a hopelessness brought on by robotically following both the sequence outlined by textbook publishers and the activities they provide". She also refers to fidelity (to the textbook) as the new f-word, and reminds the reader that teachers should be active in planning, implementation, and evaluation of all phases of the curriculum—not obedient followers of packaged textbook series (ibid., p. 3).

When it comes to pronunciation teaching, much depends on the textbooks. According to Derwing et al. (2012), this is due to the fact that many teachers have limited training and confidence in teaching pronunciation. This alarming lack of training that was detected in Canada (Foote et al., 2011) also holds true for Europe: According to the *English Pronunciation Teaching in Europe Survey* (Henderson et al., 2012), many European EFL teachers feel that their training has been insufficient when it comes to teaching pronunciation to pupils. This is true for Finland as well, even though on average the Finnish EFL teachers were more satisfied with their training than teachers in most of the European countries that were involved in the study.

A previous study on English pronunciation teaching in Finland (Tergujeff, 2013) gives reason to suspect that areas of pronunciation which are not dealt with in textbooks are also neglected in teaching. In other words, the textbook is so central that extra materials are not sought, even if this leads to important issues being left out of the programme. Because of this previous finding, the same data were analysed again, with more focus on teaching in relation to textbook content. The study concentrates on lower secondary school teaching, i.e. teaching that concerns pupils in the age of 13–16. The aim of the paper is to point out the potential problems caused by too heavy reliance on textbooks, and to serve as inspiration for future studies on the topic.

2 What Should Be Taught at Lower Secondary Level?

In Finland, English has no official status but is taught in schools as a foreign language. In addition to the national languages, Finnish and Swedish, studying one foreign language is obligatory. Foreign language studies begin at grade three, when learners are at the age of nine. Almost all children study English as their obligatory foreign language (Kumpulainen, 2010, p. 88), which means that when entering lower secondary education (grades 7–9), the pupils have studied English for 4 years.

All teaching in Finland is regulated by national core curricula, which offer general guidelines and learning objectives. In addition, regions, municipalities and individual schools may have their own curricula, but they must be in line with the national core curricula. For lower secondary level, the current relevant national core curriculum is the *National core curriculum for basic education* (Finnish National Board of Education, 2004). In regards to foreign languages and language learning, the core curriculum has an overall emphasis on oral skills, with the amount of written practice increasing gradually towards the end of lower secondary level. Even though pronunciation is an important part of oral proficiency, it is hardly mentioned in the core curriculum. There is only one explicit reference to pronunciation, and that has to do with varieties/accents. It reads: "the pupils will learn to be aware of some of the key differences between different variants of English" (2004, p. 141).

Despite the minor coverage of pronunciation in the core curriculum, there are goals set for pronunciation. The core curriculum includes a proficiency scale (as an appendix), which is meant to be used in assessing pupils. The scale is a Finnish version of the *Common European Framework of Reference* (CEFR; Council of Europe, 2001) proficiency scale. The core curriculum sets the goal for the end of lower secondary level at proficiency level A2.2. At this level, the criteria include that "pronunciation is intelligible, even if a foreign accent is evident and mispronunciations occur" (Finnish National Board of Education, 2004, p. 284). Hence, pronunciation teaching at lower secondary level should aim at intelligible pronunciation.

How is intelligible pronunciation then achieved? What should be taught? Recent recommendations emphasise the role suprasegmentals; they seem to have more impact on intelligibility than the accurate pronunciation of individual sounds (e.g., Pennington & Richards, 1986; Lane, 2010, p. 9; Morley, 1991; Seidlhofer & Dalton-Puffer, 1995, p. 135; Derwing et al., 1998). For example, incorrect word stress placement is seen as a major cause of communication breakdowns, and therefore a high priority for ESL/EFL learners (Roach, 2000, p. 100; Seidlhofer, 2001; Dirven & Oakeshott-Taylor, 1984, p. 333; Pihko, 1997, p. 126). Teaching segmentals should still not be abandoned, but as put by Seidlhofer & Dalton-Puffer (1995, p. 144), fixation on detail may be counterproductive. Pronunciation teaching should move away from mechanical training through guided practice to tasks that require more spontaneous production of speech (Morley, 1991, p. 510).

Pronunciation and pronunciation teaching are not among the popular research topics within applied linguistics (Deng et al., 2009), even though there has been grown interest towards pronunciation, especially among young researchers (Derwing, 2010). Research on textbooks and their use in teaching is scarce. In a recent paper concerning pronunciation in ESL textbooks used in Canada, Derwing et al. (2012) suggest the following criteria for pronunciation teaching materials in general-skills textbooks: (1) both segmental and suprasegmental features should be addressed, (2) a variety of task types should be used to serve different learning styles, and (3) explicit explanation and rules should be included. The paper reports on a study which revealed that the most frequent pronunciation foci in the analysed textbooks concern suprasegmental features such as intonation, sentence stress, word stress, and rhythm, which suggests that the recent emphasis on suprasegmentals have been adopted to textbooks. This is quite an opposite finding compared to a previous study on English pronunciation teaching in Finland (Tergujeff, 2013), according to which teaching focuses more on the segmental level.

3 Data and Methods

In this study, the focus is on four typical pronunciation teaching task types and four pronunciation teaching topics. The chosen task types are *imitation, reading aloud, reading phonemic script,* and *writing phonemic script.* Pronunciation teaching topics in focus are *individual sounds, word stress, sentence stress,* and *intonation.* These particular task types and pronunciation teaching topics were found of interest in a previous study (Tergujeff, 2013). Their occurrence is studied in three different data sets that were gathered for and previously presented in Tergujeff (2013): textbooks, classroom observations and learner interviews. Data collection followed Schmidt's (1990, 1995) noticing hypothesis, according to which language items must be noticed before they can be learnt. Hence, all data had to meet the criteria of explicitly directing the learner's attention to pronunciation, e.g. phonology, articulation, or discrimination. This way, the data consist of explicit pronunciation teaching activities, whereas implicit activities, such as more general oral skills tasks and free production, are excluded in this study. However, I do not deny the potential of such implicit activities. A defined focus was needed for practical reasons.

Data set 1 was collected from two EFL textbook series. Textbooks, separate workbooks and the accompanied teacher's guides were taken into account. In total, six books were analysed. The textbooks were designed for the Finnish context—supposedly following the national core curriculum—and published by two major national textbook publishers. The textbooks represented teaching materials for lower secondary level. The textbooks were commonly in use at the time of data collection, which took place in 2009. A careful analysis of these print materials was carried out to study the occurrence of the task types and teaching topics in the selected textbooks.

The analysis was based on a data-driven classification. Data gathering was carried out in two rounds. In the first round, the following criteria was used to spot potential pronunciation teaching activities: (1) activities that include oral production, (2) materials that include the use of International Phonetic Alphabet (IPA), and (3) other materials that can be considered related to pronunciation and oral production. In the second round, the data gathered in the first round was divided to pronunciation-specific and more general oral skills teaching materials. The pronunciation-specific materials served as the data pool, from which the analysis for the present study was done. The data pool was searched for materials that represent the pronunciation task types and pronunciation teaching topics that this study focuses on. The materials were classified, and their summative occurrences were calculated to determine the commonness of task types and teaching topics in relation to each other.

Data set 2 was gathered by observing the teaching of two EFL teachers, who taught English at the lower secondary level. Data collection took place in 2010. Teacher A taught English in a medium-size Finnish lower secondary school. The age range of her pupils was 13–16. The teacher had 13 years of teaching experience, but only a B.A. degree in English, which means she lacks the formal training of an EFL subject teacher according to the Finnish standards. In Finland, the formal requirement for an EFL subject teacher is an M.A. degree in English, with pedagogical studies and practical teacher training included in the degree as a minor subject. However, terminable and part-time teaching posts are often taken by teachers without formal qualifications, and for that reason, Teacher A was chosen for observation. She was observed for nine 45-min lessons during a 1-week observation period.

Teacher B worked in a small village school. Her teaching groups also consisted of 13–16-year-old pupils. Teacher B's training meets the formal qualifications: she holds an M.A. degree in English and is a qualified EFL subject teacher. She had 10 years of teaching experience. Teacher B was observed for seven 45-min lessons within 1 week. Altogether, 16 lessons were observed, and a written record was kept of the observations. The record was kept with the help of a pre-prepared observation form, which was also utilised in the classification of the task types. The data were further studied to analyse the contents of the teaching. The classification/analysis followed the procedure of the textbook analysis (data set 1). Appropriate permissions were sought and granted from the teachers, school headmasters, and municipality teaching administration.

Data set 3 was obtained by interviewing learners in 2012. A semi-structured thematic interview was used as method. Six learners attending lower secondary education took part. The age of the learners ranged from 15 to 16. The learners were encouraged to freely discuss school teaching in regards to pronunciation. They were asked how pronunciation is taught at school, and what kind of pronunciation activities are included in their textbooks, among other things. The interviews took place in the premises of the participants' school, and they were conducted in the participants' native tongue (Finnish). The interviews were audio-recorded and

transcribed for qualitative content analysis. Appropriate permissions were sought and granted from the pupils' guardians, school headmaster, and municipality teaching administration.

4 Results

In the analysed textbooks (data set 1), frequent task types included reading aloud and tasks that required reading IPA. Reading aloud occurred 74 times, and reading IPA 71 times. The tasks that required reading aloud mostly dealt with reading sentences. The tasks are often meant to be done with a partner, i.e. in a pair activity, the pupils taking turns in reading aloud and listening. Still, there is no communicative purpose with the activity. IPA symbols are introduced in a section of their own, and they occur regularly in the textbooks. They are used in introducing new vocabulary, aspects of grammar (pronunciation of past tense ending -ed), and in tasks that aim at developing the pupils IPA reading skills, such as deciphering tasks. Imitation tasks occurred 35 times. These were mostly used in connection with introducing new vocabulary. Tasks requiring writing of IPA were rare: only three such tasks were found. In these, the pupils' task was to fill in rhyme and include a phonemic transcription. Table 1 below presents the summative numbers of occurrence.

Explicit concentration on the pronunciation teaching topics under study was not popular in the textbooks. The summative numbers of occurrence are presented in Table 2. A few tasks focussing specifically on word stress and individual sounds were discovered, whereas explicit tasks on sentence stress and intonation were non-existent. Word stress was practised through listening to words and marking the correct stress placement. Information was given on the difference between Finnish

Table 1 Summative numbers of occurrence of the selected pronunciation teaching tasks in six Finnish lower secondary level EFL textbooks, workbooks and teacher's guides

Task	Number of occurrence
Reading aloud	74
Imitation	35
Reading IPA	71
Writing IPA	3

Table 2 Summative numbers of occurrence of the selected pronunciation teaching topics in six Finnish lower secondary level EFL textbooks, workbooks and teacher's guides

Topic	Number of occurrence
Individual sounds	3
Word stress	5
Sentence stress	*0*
Intonation	*0*

Non-existent items are italicized

Table 3 Summative numbers of occurrence of the selected pronunciation teaching tasks observed in the 16 lessons by two Finnish EFL teachers

Topic	Number of occurrence
Reading aloud	5
Imitation	2
Reading IPA	3
Writing IPA	*0*

Non-existent items are italicized

Table 4 Summative numbers of occurrence of the selected pronunciation teaching topics observed in the 16 lessons by two Finnish EFL teachers

Topic	Number of occurrence
Individual sounds	3
Word stress	*0*
Sentence stress	*0*
Intonation	*0*

Non-existent items are italicized

and English in regards to lexical stress placement. In Finnish, primary stress is generally placed on the word-initial syllable (Suomi et al., 2008, p. 75).

In class (data set 2), only little pronunciation teaching occurred during the 16 lessons that were observed. Three of the lessons had no pronunciation component in them. Of the task types under study, reading aloud occurred five times, tasks that require reading IPA occurred three times, and imitation occurred twice. Reading aloud and imitation was mostly done directly from the textbook, and the tasks dealt with individual words and sentences. Reading IPA was required in connection with learning new vocabulary. Tasks that involve writing IPA were non-existent. Table 3 below shows the summative numbers of occurrence.

The teaching was not focussed on prosody: word stress, sentence stress, and intonation were not addressed at all. Individual sounds were explicitly taught on three occasions, which were somewhat extemporaneous teacher corrections. The initial sounds of the words *honest* and *whole* were paid attention to, and the vowels of *cousin.* The summative numbers of occurrence are presented in Table 4.

In the learner interview data (data set 3), reading IPA and imitation were frequently mentioned task types. See Table 5 for a summary. They were mentioned by six and five learners out of six, respectively. In the interviews, the learners often referred to imitation tasks (provided by the textbook) as common practice in the classroom. IPA seems to be used in teaching as a tool, but the interviews revealed that explicit teaching of the symbols have taken place earlier, at the primary level. According to the pupils, they are expected to know the symbols at lower secondary level, and to be able to read IPA. One of the interviewed pupils found this particularly problematic, because she had not learnt the symbols properly. She stated that she was not interested in language studies at the primary level, and did not concentrate. At the time of the interview, she had become interested in travelling, which had led to better motivation towards language studies. She suffered from the

Table 5 Summative numbers of occurrence of the selected pronunciation teaching tasks in the interviews of six Finnish learners of English

Topic	Number of occurrence
Reading aloud	3
Imitation	5
Reading IPA	6
Writing IPA	*0*

The number represents how many of the six interviewees mentioned the task. Non-existent items are italicized

Table 6 Summative numbers of occurrence of the selected pronunciation teaching topics in the interviews of six Finnish learners of English

Topic	Number of occurrence
Individual sounds	1
Word stress	4
Sentence stress	*0*
Intonation	*0*

The number represents how many of the six interviewees mentioned the task. Non-existent items are italicized

fact that she could not make use of the IPA. Reading aloud was mentioned by three learners, but no-one mentioned tasks that require writing IPA.

Of the pronunciation teaching topics, word stress was mentioned by four pupils and individual sounds by one pupil. The word stress tasks that the pupils referred to were stress placement tasks from the textbook. The pupil who mentioned concentration on individual sounds was of the opinion that the focus of teaching is on individual sounds "to get the words then right". Sentence stress and intonation were not mentioned by the pupils. The summative numbers of occurrence are presented in Table 6.

5 Discussion and Conclusion

The results presented in this paper give reason to suggest that for the most part, teaching follows textbooks. The teaching techniques that are frequent in textbooks are used in teaching, whereas task types and pronunciation teaching topics that are missing from the textbooks are also non-existent in teaching. Reading aloud, reading IPA, and imitation are frequent in textbooks, so they are also present in the classroom observation data and learner interview data. Sentence stress and intonation are not explicitly addressed in textbooks. Hence, they seem not to be explicitly taught either.

Based on the study, it seems that textbooks have possibly turned into poor masters instead of good servants (cf. Cunningsworth, 1984, p. 1). The curriculum should set the goals, and the teacher should use their expertise to choose how and with which tools and materials the goals are best achieved. If textbooks are

followed blindly, important aspects may end up being neglected in teaching. The present study demonstrates how sentence stress and intonation can be left out of teaching if they are not addressed in textbooks. For the Finnish context at least, a step away from the strictly textbook-oriented teaching tradition would be welcome. The goal set by the national core curriculum emphasise intelligibility, and as discussed earlier, suprasegmental features play an important role in that. However, when these features are not explicitly mentioned in the curriculum, the textbook authors have obviously not understood their importance, and they are not explicitly dealt with in textbooks. In a textbook-oriented teaching tradition, this leads to insufficient teaching in these areas.

It is not known why the national core curriculum does not explicitly mention pronunciation teaching in the text itself, but only in the proficiency scale appendix. It is hard to believe that pronunciation would be regarded so unimportant that it is not worth mentioning (cf. the overall oral emphasis of the curriculum). Perhaps pronunciation is thought such an integral part of oral skills that it is taken for granted? In any case, I suspect that the lack of explicit notions on pronunciation in the core curriculum has given the textbook publishers the impression that it does not need to be addressed in detail.

This downside of the core curriculum is fortunately in the process of being corrected, as the National Board of Education is reforming the core curriculum. The national core curricula are renewed in approximately 10-year cycles; the next curriculum reform for basic education (=primary and lower secondary level) takes place by 2016. The draft for the new core curriculum includes *clarity of pronunciation* as a goal, and encourages to observe and practise plenty of pronunciation at lower secondary level. For primary level, the core curriculum is more specific in regards to pronunciation. It states that the teacher is to guide the learner to train pronunciation, intonation and rhythm, with intelligible speech as a goal. Observing and practising plenty of pronunciation, word and sentence stress, and intonation are explicitly mentioned in the text. In addition, teaching to read phonetic script is mentioned (Finnish National Board of Education, 2014).

The present study implies that fidelity to the textbook or textbook fatigue can be harmful to English pronunciation teaching. If pronunciation is not explicitly mentioned in the national curriculum, publishers may not understand its importance and project a very narrow approach to it in textbooks. In addition, publishers favour proven formulas; textbook content seems to be recycled to a great extent (Keenan, 2012). As for the teachers, they need encouragement and good training in how to teach pronunciation, to reclaim their power from the textbooks. Teachers need to trust their expertise and create their own way to achieve the learning objectives that are set by the curriculum. They should be the masters who use a variety of servants, such as textbooks and other teaching materials and tools, in order to coach their learners towards intelligible pronunciation.

The results of the present study are by no means generalizable, but they do demonstrate the danger of textbook hegemony to English pronunciation teaching, at least in the context of the study. Differences in both textbooks and in teaching may vary substantially from context to context, as proven by a comparison between the

Canadian textbook analysis (Derwing et al., 2012) and the Finnish textbook analysis (Tergujeff, 2013). Based on the present study, the topic clearly calls for systematic research on pronunciation in ELT textbooks (and their use), as already suggested in Sobkowiak (2012).

References

Bragger, J. D., & Rice, D. B. (2000). Foreign language materials: Yesterday, today, and tomorrow. In R. M. Terry (Ed.), *Agents of change in a changing age* (pp. 107–140). Lincolnwood, IL: National Textbook Company.

Chapelle, C. A. (2009). A hidden curriculum in language textbooks: Are beginning learners of French at U.S. universities taught about Canada? *Modern Language Journal, 93,* 139–152.

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment.* Cambridge: Cambridge University Press.

Cunningsworth, A. (1984). *Evaluating and selecting EFL teaching materials.* London: Heineman Educational Books.

Deng, J., Holtby, A., Howden-Weaver, L., Nessim, L., Nicholas, B., Nickle, K., Pannekoek, C., Stephan, S., & Sun, M. (2009). English pronunciation research: The neglected orphan of second language acquisition studies. *Prairie Metropolis Centre Working Paper Series,* WP05-09, Edmonton, AB.

Derwing, T. M. (2010). Utopian goals for pronunciation teaching. In J. Levis, & K. LeVelle (Eds.), *Proceedings of the 1st Pronunciation in Second Language Learning and Teaching Conference, Iowa State University* (pp. 24–37). Ames, IA: Iowa State University.

Derwing, T. M. & Munro, M. J. (2005). Second language accent and pronunciation teaching: A research-based approach. *TESOL Quarterly*, *39(3)*, 379–397.

Derwing, T. M., Munro, M., & Wiebe, G. (1998). Evidence in favor of a broad framework for pronunciation instruction. *Language Learning, 48(3),* 393–410.

Derwing, T. M., Diepenbroek, L. G. & Foote, J. A. (2012). How well do general-skills ESL textbooks address pronunciation? *TESL Canada Journal, 30(1),* 22–44.

Dirven, R., & Oakeshott-Taylor, J. (1984). Listening comprehension (Part 1). State of the art article. *Language Teaching, 17,* 326–343.

Finnish National Board of Education. (2004). *National core curriculum for basic education.* Helsinki: Author.

Finnish National Board of Education. (2014). Perusopetuksen perusteluonnokset. http://www.oph.fi/ops2016/perusteluonnokset/perusopetus.

Foote, J. A., Holtby, A. K. & Derwing, T. M. (2011). Survey of the teaching of pronunciation in adult ESL programs in Canada, 2010. *TESL Canada, 29(1),* 1–22.

Henderson, A., Frost, D., Tergujeff, E., Kautzsch, A., Murphy, D., Kirkova-Naskova, A., Waniek-Klimczak, E., Levey, D., Cunningham, U. & Curnick, L. (2012). The English pronunciation teaching in Europe survey: Selected results. *Research in Language, 10(1),* 5–27.

Keenan, L. H. (2012). Textbook pedagogy: Some considerations. *Classical World, 106(1),* 117–121.

Kumpulainen, T. (Ed.) (2010). *Koulutuksen määrälliset indikaattorit 2010.* Helsinki: Finnish National Board of Education.

Lane, L. (2010). *Tips for teaching pronunciation: A practical approach.* New York: Pearson Longman.

Lent, R. C. 2012. *Overcoming textbook fatigue: 21st century tools to revitalize teaching and learning.* Alexandria, VA: Association for Supervision & Development (ASCD).

Luukka, M-R., Pöyhönen, S., Huhta, A., Taalas, P., Tarnanen, M. & Keränen, A. (2008). *Maailma muuttuu – mitä tekee koulu? Äidinkielen ja vieraiden kielten tekstikäytänteet koulussa ja vapaa-ajalla.* University of Jyväskylä: Centre for Applied Language Studies.

Morley, J. (1991). The pronunciation component in teaching English to speakers of other languages. *TESOL Quarterly*, *25(3)*, 481–520.

Pennington, M. C., & Richards, J. C. (1986). Pronunciation revisited. *TESOL Quarterly, 20(2)*, 207–225.

Pihko, M-K. (1997). *His English sounded strange. The intelligibility of native and non-native English pronunciation to Finnish learners of English.* University of Jyväskylä: Centre for Applied Language Studies.

Roach, P. (2000). *English phonetics and phonology.* Cambridge: Cambridge University press.

Seidlhofer, B. (2001). Pronunciation. In R. Carter, & D. Nunan (Eds.), *The Cambridge guide to teaching English to speakers of other languages* (pp. 56–65). Cambridge: Cambridge University Press.

Seidlhofer, B. & Dalton-Puffer, C. (1995). Appropriate units in pronunciation teaching: some programmatic pointers. *International Journal of Applied Linguistics, 5(1),* 135–146.

Schmidt, R. (1990). The role of consciousness in second language learning. *Applied Linguistics, 11,* 127–158.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning (*pp. 1–63). Honolulu: University of Hawaii Press.

Sobkowiak, W. (2012). This is Tom = /zyzys'tom/. Pronunciation in beginners' EFL textbooks then and now. *Research in Language, 10(1),* 111–122.

Suomi, K., Toivanen, J., & Ylitalo, R. (2008). *Finnish sound structure: Phonetics, phonology, phonotactics and prosody.* Oulu: University of Oulu.

Tergujeff, E. (2013). *English pronunciation teaching in Finland.* Jyväskylä: University of Jyväskylä. http://urn.fi/URN:ISBN:978-951-39-5322-5.

In Defense of the Usefulness of a Polish-Based Respelling Phonetic Transcription System in the Elementary to Lower-Intermediate EFL Classroom

Łukasz Furtak

Abstract Despite its common usage in dictionaries and travel phrase-books, the application of sequences of first-language (here: Polish) letters in order to capture an approximate pronunciation of words in the target language (here: English) (e.g., water [ˈłote], six [ˈsyks], foreign [ˈforyn], computer [kymˈpjute]) appears not to have been considered a noteworthy pedagogical tool by researchers dealing with teaching EFL phonetics (Cymbalista & Kleparski, 2002). What is more, Sobkowiak (1997) appears to constitute one of the few available comprehensive discussions of the aforementioned technique. The method seems to suffer from a number of major application-related disadvantages ranging from a somewhat aesthetic matter (to a number of teachers it does not make an impression of being sufficiently scientifically-grounded) to theoretical considerations connected with the undeniable arbitrariness of the choice of symbols and their limited usability in the task of reflecting relevant aspects of English phonetics. On the other hand, one may also notice several elements which render the approach appealing from a rather practical perspective. Firstly, this quasi-phonetic code is adequate for users of EFL materials who, broadly speaking, are not, or do not wish to be familiar with the standard IPA phonetic script (high-school students, employees of international corporations, individuals interested in English for travel, or the elderly, to quote just few). Those EFL learners' aim is not phonetic precision itself but rather every-day communication (cf. Sobkowiak, 1997). The aim of the paper is to discuss both the drawbacks and merits of the technique introduced above, concentrating on several crucial aspects of its application (aesthetic, logical, practical, methodological, acoustic, facilitative) and highlighting those elements that learners might benefit from. The discussion is supplemented with a brief analysis of selected EFL resources available on the market and the author's own proposal of a system of letter-based phonetic approximations for usage in the EFL classroom.

Ł. Furtak (✉)
The State School of Higher Professional Education in Sandomierz, Sandomierz, Poland
e-mail: furtakl@o2.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_7

1 Introduction

In spite of its practicality in the EFL classroom and popularity in phrase books, the phenomenon of respelling has not been frequently referred to by either EFL methodology researchers or phoneticians; hence, the amount of available literature dealing with the topic is undoubtedly scarce. The sources that might be encountered may be divided into the ones which are in favor of respelling and those which, naturally, are against it.

The publications which consider using the orthographic means of the first language a tool worthy of discussion are the ones written by prof. Włodzimierz Sobkowiak. In Sobkowiak (1997), the author argues in favour of a radically simplified phonetic-access dictionary transcription (SPAD) (Sobkowiak, 1997) to be used by intermediate level students in their study of English pronunciation. What is more, the article contains an accurate and detailed proposal of a SPAD as well as some of its systemic properties such as phonetic contrast neutralization (accompanied by the subsequent creation of novel homophonous pairs). Sobkowiak (2007), which is another work in this set, constitutes an attempt at an approximate comparison between the manner in which phonetics was presented in coursebooks published in the past and the way pronunciation is dealt with nowadays. Features such as L1-sensitivity, learner-friendliness and consistency of, broadly speaking, phonetic representations in dictionary entries are also considered in Sobkowiak (2012) which includes a discussion of diverse aspects of presenting phonetic content to dictionary-users from the perspective of their individual needs rather than phonetic precision proper.

On the other hand, Cymbalista and Kleparski (2002) constitutes the sole work the authors of which do not view the phenomenon of respelling sufficiently serious to be considered a didactic tool. They describe Polish-based respelling notations as déclassé and primitive claiming that they "(…) take a dubious advantage of the orthographic conventions of the native tongue" (2002, p. 13).

The paper constitutes the expression of the author's belief that the frequently underrated method of respelling may be considered one of a number of pedagogical tools used during EFL lessons. Naturally, its usage needs to be subject to certain limitations, for instance those referring to the age of the learners, their level of English competence or the aim of the class. In other words, the aim of the paper is to prove that the disadvantages of applying a respelled system of notation do not outweigh the advantages, which renders the method noteworthy, practical and attractive.

2 Features of the Respelling System

It might be somewhat problematic to continue the discussion of a respelling system without providing the reader with an overview of the basic features according to which the system has been construed. Therefore, it has been decided that the very

beginning of the body of the paper ought to be devoted to a possibly concrete and clear justification of two crucial properties of the procedure as a result of which English individual sounds as well as clusters might be approximated using the Polish orthography. The properties are the following: (a) a criterion on the basis of which the sound correspondence is conducted and (b) a model of English phonetics used as a donor in the aforementioned procedure.

Firstly, the understanding of the term *respelling* requires clarification. In the current work, *respelling* is interpreted as the result of a two-stage procedure. Phase one consists in approximating an English segment (or a string of segments) to its closest Polish equivalent, whereas the aim of stage two is to code the outcome of stage 1 using Polish letters. In other words, the respelled pronunciation of a word or segment constitutes a Polish-filtered English word (or sound) which has been spelled utilising the available means of the Polish orthography. At this point, it ought to be clear that respelling is not a type of phonetic transcription. Identifying a respelled pronunciation of a word or sound does not involve applying Polish-related symbols to code English sounds in order to facilitate the user's access to English phonetics. What respelling (as understood in the current article) does is provide a Polish-based code to reflect Polish approximations of English sounds in the spelling (for another interpretation of the concept of *respelling*, see Sobkowiak, 2012).

A crucial element to be noticed is that it would be virtually impossible to decide on specific cross-language sound approximations not having determined the criterion on which the aforementioned relations might be based. The question to be asked at this point refers to whether sounds should be approximated on the auditory, articulatory, or acoustic basis? In order to answer it, one needs to understand for what purpose a respelling notation is created in the first place. Apparently, the crucial goal is to make it possible for learners (who are not experts in phonetics) to communicate in English in practical everyday situations such as booking a room at a hotel in Spain or inquiring about the toilet at a shopping center in Germany, or for teachers to be able to present an approximate English pronunciation to their students on the board during an elementary- or lower-intermediate level class of English. Such circumstances require quick and practical access to the pronunciation of the basic phrases which ought to, in turn, be understandable to a listener who may be a native or, more probably, non-native speaker of English themselves.

If one takes this perspective into consideration, the auditory criterion appears to be the most adequate basis for the attribution of cross-language equivalents. In other words, not being familiar with English sounds, the potential user of a respelling code wishes to sound as English as possible using the phonetic means of their own native tongue. The acoustic and articulatory aspects might be (and will be) considered helpful but definitely not decisive due to the non-linear relationship between articulatory gestures and their auditory perception. In order to clarify this point, we might briefly recall the articulatory and acoustic features of two variants of the /r/phoneme encountered in Polish and in English. The former sound, i.e. [r], constitutes a non-lateral alveolar trill whereas the latter one, i.e. [ɹ], is a post-alveolar retroflex approximant. From the acoustic point of view, the Polish trill encountered in everyday speech looks like a series of two taps separated by brief periods of vocalic schwa-like

activity (Jassem, 1973). On the other hand, the formant structure of the English approximant is reminiscent of that of a vocalic segment, with a low F3 and transitions rising steeply to a following vowel (Gimson, 2001), which naturally renders the two segments completely dissimilar both acoustically and articulatorily. And yet, despite the unquestionable differences, both sounds are perceived and decoded as instances or variants of the /r/phoneme. We might also state that perception of speech involves much more than the signal itself. The additional information available to the listener may be related to their familiarity with English spelling or experience listening and decoding heavily accented speech. In other words, the task of decoding a string of phonetic segments such as [ˈwɔtɜr], which itself is a typical Polglish (for a characterisation of the concept of *Polglish*, see Sobkowiak, 1997) mispronunciation of the English word 'water', as the English lexeme *water* appears not to be as formidable either to a native or a non-native speaker of English than it might seem at first sight due to the fact that "[n]ative speakers of English are especially noted for their tolerance of gross mispronunciations (…)" (Sobkowiak, 1997, p. 1801). The explanation for this seeming paradox ought not to be sought in either acoustic or articulatory characteristics of individual segments, but rather in the reality of the process of acquiring (for a native speaker) or learning (for a non-native speaker) of English. A non-native speaker of English had to learn the language on a step-by-step basis, which inevitably involved committing errors and hearing other learners make mistakes as well. As a result, for a non-native speaker, heavily accented English may be much easier to understand than native speech. As far as native speakers are concerned, one should realize that they grow up in English-speaking countries, surrounded by immigrants from a variety of linguistic backgrounds. Individuals whose native tongue is English become accustomed to decoding accented speech due to the fact that, as young people, they are likely to have non-native school friends; what is more, in adult life, they work with immigrants and interact with them. Therefore, even though speaking with an accent may lead to momentary comprehension problems, rarely does it result in the breakdown in communication.

What, then, is the goal of using a respelling notation system in the study of English pronunciation? Somewhat paradoxically, the goal is to be able to sound English-like without being able to pronounce English sounds, communicate in English and at the same time be ignorant of the technicalities of English phonetics. This seemingly self-contradictory statement becomes logical in view of the redundancy of communication presented above.

The other question refers to the choice of a model of English phonetics, or, to be more precise, the native variety of English, to be used as a donor to the process of correspondence. One might be tempted to base the procedure on RP as it is the most common English variety encountered in EFL materials, however, we should not forget that a respelling notation is itself an approximation of English phonetics and its result ought to be understandable to both native and non-native speakers of English. The major goal of putting respelling to use is for a learner to achieve the communicative ability to speak English in everyday situations rather than copy a certain pre-determined accent of English as faithfully as possible. In other words, one ought to ask oneself a question whether we should focus on the needs of the

learner and create a practical user-friendly hassle-free imperfect code, or rather on the theoretical pursuit of phonetic perfection with the aim of constructing a letter-based reproduction of the phonetics of an accent. It appears that the only sensible solution is to find a compromise between the two perspectives, i.e. a system which heavily draws from a pre-selected accent but *sacrifices* some of its elements when effective communication is in danger in order to reduce phonetic contrast neutralisation. With practical communication in mind, the above reasoning leads us to believe that it is fairly sensible to choose RP as the model but not forget that the communicative needs of the user ought to come first. Let us illustrate that with a correspondence based on the two English words, 'barn' and 'bun'. If we decide on RP to be the donor accent, the pronunciation of the lexemes is the following:

barn [ˈbɑːn] → [ˈban] (respelled version)
bun [ˈbʌn] → [ˈban] (respelled version)

As can be observed, this solution results in the neutralization of the [ɑː]-[ʌ] contrast, which, in turn, leads to communicative problems. The problem may be by-passed altogether if we eliminate RP as the donor and introduce an element of the spelling into the final phonetic form. In this case, the respelled version would maintain the contrast between the two words:

barn [ˈbɑːn] → [ˈbarn] (respelled version)
bun [ˈbʌn] → [ˈban] (respelled version)

The abovementioned solution compromises the pre-selected pronunciation model of the donor for the sake of the preservation of the semantic contrast and maintenance of communication. On the other hand, the ultimate sequences contain an r-like segment, which makes them more similar to rhotic varieties of English. Hence, the non-rhoticity of RP needs to be abandoned for the sake of contrast preservation.

3 Proposal of a Respelling System for Vocalic Elements

Having presented the rationale behind acknowledging the auditory perception of foreign segments and contrast preservation as the ultimate criteria to be used in the process of attributing Polish sounds to the English ones, we may proceed with a discussion of the interrelations between the two sets of segments. Table 1 contains an enumeration of English-Polish vocalic correspondences (the symbols reflect the exact positions of Polish vowels in the vowel diagram which have been derived from the account included in Wiśniewski, 1997).

The table included above demonstrates how the two criteria introduced in Sect. 2 influence the ultimate choice of a phonetic form which constitutes a compromise between enhancing auditory similarity and reducing the neutralisation of phonetic contrast.

In the majority of cases, one may observe a strictly auditory-based correspondence between the segmental English *donor* and the respelled Polish result.

Table 1 Correspondences between English vocalic segments and their Polish equivalents

English sound	Polish sound	Polish letter	Exemplary word (English spelling, IPA transcription, Polish respelling)
iː	i	i	league [ˈliːg] → [ˈlig]
e	ɛ̣	e	head [ˈhed] → [ˈhed]
æ	ɛ̣	e	bad [ˈbæd] → [ˈbed]
ɜː	i̯r	yr	firm [ˈfɜːm] → [ˈfyrm]
ə (word-final)	ɛ̣	e	water [ˈwɔːtə] → [ˈɬote]
ə (word-medial, word-initial)	i̯	y	police [pəˈliːs] → [pyˈlis]
ɪ	i̯	y	hid [ˈhɪd] → [ˈhyd]
ʌ	a̱	a	bud [ˈbʌd] → [ˈbad]
ɑː	a̱	a	half [ˈhɑːf] → [ˈhaf]
ɑː (if -ar- in the spelling)	a̱r	ar	farm [ˈfɑːm] → [ˈfarm]
ɒ	ɔ	o	dog [ˈdɒg] → [ˈdog]
ɔː	ɔ	o	law [ˈlɔː] → [ˈlo]
ɔː (if -or-/-our- in the spelling)	ɔ	or	cord [ˈkɔːd] → [ˈkord]
uː	u̯	u	boot [ˈbuːt] → [ˈbut]
ʊ	u̯	u	look [ˈlʊk] → [ˈluk]
eɪ	ɛ̣j	ej	race [ˈɹeɪs] → [ˈrejs]
aɪ	a̱j	aj	high [ˈhaɪ] → [ˈhaj]
ɔɪ	ɔj	oj	boy [ˈbɔɪ] → [ˈboj]
əʊ	ɔw	oł	low [ˈləʊ] → [ˈloł]
aʊ	a̱w	ał	how [ˈhaʊ] → [ˈhał]
ɪə	ijɛ̣	ije	steer [ˈstɪə] → [ˈstije]
eə	ɛ̣ɛ̣	ee	where [ˈweə] → [ˈɬee]
ʊə	u̯wɛ̣	uɬe	pure [ˈpjʊə] → [ˈpjuɬe]
aɪə	a̱jɛ̣	aje	higher [ˈhaɪə] → [ˈhaje]
eɪə	ɛ̣jɛ̣	eje	layer [ˈleɪə] → [ˈleje]
ɔɪə	ɔjɛ̣	oje	employer [ɪmˈplɔɪə] → [ymˈploje]
əʊə	ɔwɛ̣	oɬe	lower [ˈləʊə] → [ˈloɬe]
aʊə	a̱wɛ̣	aɬe	hour [ˈaʊə] → [ˈaɬe]

However, a number of sounds the pronunciation of which had to be partially sacrificed for the sake of the maintenance of communication may be encountered as well. The group of segments consists of the following elements: [ɜː], [ɑː], [ɔː]. All these sounds had to be *enriched* with a spelling-based element, i.e. the letter 'r', if that letter is one of the symbols coding a given vocalic element into the spelling. The introduction of two respelled versions of one English vowel stems from a lack of a one-to-one relationship between the vowel and the manner in which it is reflected in the English orthography. Such addition of a segment does have a phonetic justification as an r-like sound is inserted in rhotic accents of English, which renders the modified sequences more American- or Irish-sounding. That fact does not appear to have any negative bearing on the communicative value of the resultant string of segments though. Such reasoning may have to be compromised, however, in instances of words the pronunciation of which displays the dropping of the 'r' letter which is present in the spelling. If the letter is sounded, the result constitutes a rendering which might be considered utterly incorrect. For a word which belongs to the group of *phonetic exceptions* or *commonly mispronounced words*, an addition of an 'r' that would normally be dropped yields a result which is contrary to the intended one. A teacher applies respelling in order for the students to avoid making mistakes, but this element of the respelling technique appears to enforce committing exactly the mistakes it was supposed to help to omit. The contracted form *weren't* seems to be a case in point here. In RP, its pronunciation consists of just one syllable, i.e. [ˈwɜːnt]. However, the most common Polglish mispronunciation of the form is [ˈwɛr̥i̥nt]. In that case, if one insists on sounding the 'r' letter, the result constitutes exactly the pronunciation to be avoided. A sensible solution would be thus to suggest to students (or users) the rendering of this contraction along the lines of [ˈwɛnt] or [ˈwi̥nt]. A similar reasoning might be conducted in reference to the contracted form *aren't* in order to avoid a common Polglish spelling-based mispronunciation, i.e. [ˈar̥ɛn̥t]. The above brief discussion of possible respelled Polish-based reflections of the two contractions appears to indicate that, in spite of structured attempts at a theoretically coherent respelling system, each problematic, controversial or non-standard case ought to be considered individually.

The author's professional experience in EFL teaching does point to another solution as far the EFL classroom treatment of the long schwa is concerned. The vowel appears to be the sole English vocalic segment which cannot be satisfactorily substituted by a Polish sound. Naturally, one may claim that certain Polish vocalic elements are the closest auditory or articulatory equivalents, but the level of auditory similarity between [ɜː] and, say, either [i̞] or [ɛ̝], is considerably lower than that between the English monophthong [e] and the Polish segment [ɛ̝], or the English [ɪ] and the Polish [i̞]. In that case, the most straightforward and sensible solution is to devote some classroom time to the introduction and practice of the long schwa. As it appears, the vowel is not as problematic as it might seem and even elementary-level students are able to say it after some practice. It quickly becomes appearent that students' ability to articulate [ɜː] brings their English to another level and allows the teacher to present words such as *word* or *work* (which

are commonly mispronounced by Polish learners) without unnecessary simplifications. As long as there is only one English sound introduced during the class and the teacher resists the temptation to discuss any other phonemes, the students accept the methodology and become easily accustomed to the notation. An attempt at the introduction of more English sounds or, what is infinitely worse, their IPA symbols, may, during an EFL elementary-level class, result in boredom, disapproval and students' unwillingness to participate.

4 Proposal of a Respelling System for Consonantal Elements

Having discussed the correspondences between English vocalic elements and their Polish respelled counterparts, we may proceed to a characteristisation of similar consonantal pairs. As previously, the crucial criterion for the attribution of a Polish respelled equivalent is the auditory dimension of the *donor*, i.e. the English lexeme pronounced in RP English. Table 2 below presents a proposed set of correspondences relating to English consonants.

In the great majority of the cases, the attribution process involves straightforward replacement of an English segment with its Polish counterpart. Naturally, certain phonetic features typical of English, such as the contextually-determined aspiration of fortis plosives, the alveolar place of articulation for [s] and [z], or the velarisation of [ɬ], are lost but the ultimate preservation of contrast, communicative value and effortlessness of access for a potential user cannot be over-estimated.

Some elements of Table 2, however, appear to require a comment. The English dark [ɬ] constitutes a segment which, due to its complex alveo-velar place of articulation and syllabicity, cannot be satisfactorily reflected using the phonetic means available in contemporary Polish phonetics. Therefore, employing a VC sequence appears to be necessary to approximate the segment, on the one hand, and preserve phonetic contrast, on the other hand. Naturally, one ought not to forget that the context-dependent velarisation of the lateral alveolar approximant does not constitute a universal property of all English accents and there are varieties in which all the variants of the phoneme /l/are not velarised. A similar operation of an application of the VC string seems to be indispensable in order to capture the English syllabic [m] and [n] using the means available in the Polish orthography.

Providing two contextually-sensitive Polish equivalents of the voiced dental fricative has been caused by the fact that the fricative appears to display divergent amount of voicing word-initially and word-finally, on the one hand, and intervocalically, on the other hand. The position at the beginning of a word seems to be optimally reflected using the Polish dental plosive [d] as the fricative is only partially-voiced and frequently undergoes hardening to [d] in non-standard varieties of English (Gimson, 2001). Intervocalic [ð] retains full voicing, which results in higher amplitude; therefore, the resulting segment may be claimed to be best respelled using a Polish fricative (rather than a plosive), the labio-velar [v] being

Table 2 Correspondences between English obstruents and their Polish equivalents

English sound	Polish sound	Polish letter	Exemplary word (English spelling, IPA transcription, Polish respelling)
s	s	s	sister [ˈsɪstə] → [ˈsyste]
z	z	z	zoo [ˈzuː] → [ˈzu]
f	f	f	fly [ˈflaɪ] → [ˈflaj]
v	v	w	veal [ˈviːl] → [ˈwil]
ð (word-final, word-medial)	v	w	rather [ˈrɑːðə] → [ˈrawe] bathe [ˈbeɪð] → [ˈbejw]
ð (word-initial)	d	d	these [ˈðiːz] → [ˈdiz]
θ	f	f	thin [ˈ θɪn] → [ˈfyn]
ʃ	ś	sz	shy [ˈʃaɪ] → [ˈszaj]
ʒ	ź	ż	rouge [ˈɹuːʒ] → [ˈruż]
h	x	h	high [ˈhaɪ] → [ˈhaj]
p	p	p	pen [ˈpen] → [ˈpen]
b	b	b	bet [ˈbet] → [ˈbet]
t	t	t	tip [ˈtɪp] → [ˈtyp]
d	d	d	done [ˈdʌn] → [ˈdan]
k	k	k	kick [ˈkɪk] → [ˈkyk]
g	g	g	guy [ˈgaɪ] → [ˈgaj]
ʧ	t͡ś	cz	China [ˈʧaɪnə] → [ˈczajne]
ʤ	d͡ź	dż	Joe [ˈʤəʊ] → [ˈdżoł]
m	m	m	mine [ˈmaɪn] → [ˈmajn]
m̩ (syllabic)	i̯m	ym	rhythm [ˈɹɪðm̩] → [ˈrywym]
n	n	n	know [ˈnəʊ] → [ˈnoł]
n̩ (syllabic)	i̯n	yn	button [ˈbʌtn̩] → [ˈbatyn]
ŋ	ŋg	ng	king [ˈkɪŋ] → [ˈkyng]
l	l	l	law [ˈlɔː] → [ˈlo]
(non-syllabic post-vocalic) ɫ	l	l	bill [ˈbɪɫ] → [ˈbyl]
(syllabic post-consonantal) ɫ	i̯l	yl	kettle [ˈketɫ] → [ˈketyl]
ɹ	r	r	red [ˈɹed] → [ˈred]
j	j	j	yes [ˈjes] → [ˈjes]
w	w	ł	week [ˈwiːk] → [ˈłik]

auditorily the closest one. Technically speaking, following this line of reasoning, we ought to state that the word-final [ð] is to be adequately reflected via a plosive since it is partially-voiced. However, taking the predominant auditory perspective into consideration, one may stipulate that, in the Polish ear, a word-final [ð] does not sound like a plosive at all-it sounds like a fricative. What is more, when a suffix is added, the fricative may eventually become intervocalic.

An additional segment needs to be inserted in the case of [ŋ] as well. Of course, Polish does contain the velar nasal in its phonetic system but the environment in which it is found is divergent. The problem is that, in Polish, the velar nasal is always followed by a homorganic velar plosive, [k] or [g]. Approximating the sound into Polish follows one of the two strategies-inserting an extra segment (i.e. [g]) or removing the velar place of articulation (and turning the the velar nasal into the alveolar nasal). The latter solution appears to result in the considerable loss of phonetic word-final contrast whereas the former one constitutes a typical Polglish error, but at the same time preserves the contrast. As before, bearing success in communication in mind, we opt for the former following the logic of choosing, to put it informally, *the lesser of the two evils*.

ring [ˈɹɪŋ] → [ˈryng] (the former version)
ring [ˈɹɪŋ] → [ˈryn] (the latter version)

5 Proposal of a Respelling System for Strings of Segments

When considering the possible respelled forms of English segments (both vocalic and consonantal) one should not forget about the fact that, when individual sounds are placed in sequences, they may (and usually to some extent will) influence one another; what is more, the mutual interactions might result in an auditory sensation which is not so much unpredictable as completely divergent from the pronunciations of its individual elements.

Table 3 lists a selection of consonantal (1–5) and mixed (6) sequences of sounds which have been considered distinctive due to the fact that in all the cases the auditory outcome of the string results in a sensation which is distant from the sounding of its individual components. Hence, each item in the table requires separate treatment and analysis. The uniqueness of items 1 and 2 reflects the mutual influence of the plosive and the approximant resulting in the aspiration and shift of the former as well as the affrication and devoicing of the latter (Gimson, 2001). As a result, the auditory dimension of both the English sequences is optimally expressed as strings of a Polish affricate followed by the Polish trill. Points 3 and 6 refer to a sheer simplification of the original English sequence in order to render it easily readable and pronounceable for a Polish user. What is more, in accordance with Sobkowiak's proposal (Sobkowiak, 1997), number 6 makes use of the Polish orthographic string -eń- which renders it possible to include nasality and palatality in one symbol. Positions 4 and 5 require an insertion of a segment in order for the

Table 3 Correspondences between selected English and Polish segmental sequences

number	English string	Polish string	Polish spelling	Exemplary word (English spelling, IPA transcription, Polish respelling)
1	tr (syllable-initial)	t͡ʂr	czr	train [ˈtreɪn] → [ˈczrejn]
2	dr (syllable-initial)	d͡ʐr	dżr	dry [ˈdraɪ] → [ˈdżraj]
3	ts (syllable-final)	t͡s	c	that's [ˈðæts] → [ˈdec]
4	t̚ (geminate)	t	t	that top [ðæt̚ ˈtɒp] → [det ˈ top]
5	t̚ (unreleased)	t	t	that girl [ðæt̚ ˈgɜːɫ] → [det ˈgyrl]
6	eɪn	ɛ̯n	eń	ancient [ˈeɪnʃənt] → [ˈeńszynt] danger [ˈdeɪnʤə] → [ˈdeńdże]
7	fθ	ff	ff	fifth [ˈfɪfθ] → [ˈfyff]

strings to be decodable by a Polish listener. Technically speaking, in the majority of the cases, the first instance of the plosive in 4 and 5 ought to be unreleased as it is followed by another plosive. This articulation of the first plosive, however, would render the sound virtually inaudible to a Polish ear. The hypothetical respelled forms might resemble the following:

(a) that top [ðæt̚ ˈtɒp] → [deˈ top]
(b) that girl [ðæt̚ ˈgɜːɫ] → [deˈ gyrl]

In this situation, however, the sequences might be decoded as *the top* and *the girl*, respectively. In order to avoid this dangerous semantic shift, an additional [t] segment ought to be inserted into the pronunciation of the sequence to make it more spelling-like, and consequently easier to interpret.

On the other hand, one should be aware of the unquestionable limitations of the method of respelling. Its application runs into serious trouble when dealing with case 7 due to the fact that a sequence of a dental and a labio-dental fricative cannot be satisfactorily reflected in Polish as there are no dental fricatives in this language. A possible solution is to propose a geminate sequence of two labio-dental fricatives; however, Polish users appear to find the string unsuitable for practical use and somewhat *cumbersome*.

6 Proposal of a Respelling System for Unstressed/Weakly Stressed Syllables

The presence of the short schwa in unstressed and weakly-stressed positions constitutes a common source of errors for spelling-oriented Polish learners and results in an orthography-based mispronunciation of a word.

Table 4 Respelled forms of lexemes containing the lexical short schwa in the word-initial (1, 2), word-medial (3, 4), word-final (5, 6) position and in selected weak forms (7, 8, 9)

no.	English lexeme	English pronunciation	Polish pronunciation	Respelled form
1	police	[pə ˈliːs]	[pɨ̟ˈ lʲis]	[pyˈ lis]
2	suppose	[sə ˈpəʊz]	[sɨ̟ ˈpɔwz]	[sy ˈpołz]
3	secretary	[ˈsekrətri]	[ˈsɛ̟krɨ̟t͡ʂri]	[ˈsekryczri]
4	dinosaur	[ˈdaɪnəsɔː]	[ˈda̟jnɨ̟sɔ]	[ˈdajnyso]
5	brother	[ˈbrʌðə]	[ˈbra̟vɛ̟]	[ˈbrawe]
6	better	[ˈbetə]	[ˈbɛ̟tɛ̟]	[ˈbete]
7	from Poland	[frəm ˈpəʊlənd]	[frɨ̟m ˈpɔwlɨ̟nd]	[frym ˈpołlynd]
8	for Peter	[fə ˈpiːtə]	[fɨ̟ ˈpitɛ̟]	[fy ˈpite]
9	of wood	[əv ˈwuːd]	[ɨ̟v ˈwu̟d]	[yw ˈłud]

The unstressed syllables in Table 4 have been divided into two types-the intra-word ones, i.e. the syllables which have lost prominence as a result of the rhythmic structure of the word as whole (1–6), and inter-word ones, i.e. the ones which lack stress due to the appearance of weak forms in connected speech (7–9). As can be noticed, respelling proves to be a practical and useful tool which may be used in conducting an approximate Polish-based demonstration of the segmental consequences of converting a stressed syllable into an unstressed one. This way, the appearance of weak forms in connected speech as well as the pronunciation of the short schwa in lexically-unstressed syllables which both constitute challenging and considerably unintuitive phenomena for Polish learners can be successfully explained in a matter of minutes. It ought to be remembered, however, that this kind of explanation is not adequate for a university-level phonetics class but rather an English course the participants of which only use English for communicative purposes.

7 Selected Aspects of the Application of Respelling

The method of respelling may be viewed from a variety of angles and its usage appears to have diverse consequence. The first aspect to be mentioned here is the aesthetic, and somewhat psychological, point of view. To a number of teachers, applying the letters of their native tongue may not seem to be sophisticated enough, even intellectually primitive. This approach stems from the conviction that if a teacher presents a letter-based account of a word's approximate pronunciation to his

students, he or she is downgrading his personal phonetic competence and expertise and thus losing respect of the group. The impression one may be under is that, if respelling is taught during an EFL class, the instructor does not have the appropriate command of English phonetics (preferably RP English) and, as a result, he or she is not able to present phonetic transcription to his group of students. In other words, the instructor is utterly incompetent as far as pronunciation teaching is concerned (because he would rather force his/her students to use Polish sounds than teach English phonemes) and obviously ignorant of academically-grounded phonetic transcription (due to the fact that, if the teacher was familiar with it, he would certainly use it during the lesson). However, the impression is wrong for a number of reasons. Firstly, it is always the instructor's responsibility to choose the techniques to be applied during the class. That choice ought to be determined by factors such as the level of teaching, the age of the students, or the purpose of the course. During academic English phonetics classes respelling should not be used (or overused), but it might be a useful method for elementary-level English classes taught to for instance farmers who wish to communicate in English with their business partners (also farmers) from other countries. Secondly, it ought to be understood that respelling is not meant to be phonetically precise, but rather practically helpful. With that view in mind, all the instructor wishes to do is help his students in their unequal struggle with English phonetics; in order to do that, he or she attempts to achieve the maximum pedagogical result using the concrete means that are available to him. For a variety of reasons (some of which have been presented above), the possibility of teaching sophisticated phonetic knowledge to the students may not necessarily be one of them. Thirdly, the claim that respelled forms of English words are primitive, or look primitive, comes from a misunderstanding of the situational context in which they are applied. Utilising orthographic means of one's first language to demonstrate the pronunciation of words in a foreign tongue requires of the instructor both considerable expertise in the phonetic systems of both the codes and a good deal of practically-grounded contrastive approach. In the author of the current publication's modest opinion, the ability to provide clear and sometimes rudimentary approximations of sophisticated phenomena is an indispensable feature of a successful teacher or lecturer. It might be compared to discussing the physical movement of molecules by means of the observation of the behaviour of snooker balls.

Having discussed the aesthetic perspective, let us proceed with the practical aspect of the application of respelling. For the purposes of an EFL class, the technique allows the instructor to explain an approximate pronunciation of a word to his students quickly and efficiently, which renders it a useful and welcome tool in the contemporary competitive EFL market. For instance, demonstrating the appearance of the short schwa in an unstressed syllable might be a time-consuming task as Polish students notoriously base their phonetic judgements on the spelling. In the case of respelling, it takes no more than several minutes to present the approximate pronunciation of a word and explain the influence of the absence of stress on the quality of the vowel. Naturally, in addition to realising the concrete

merits of using letters to reflect sounds, one ought to be aware of the practical limitations of the method.

The most crucial of these limitations refers to, methodologically speaking, *the target audience*. The individuals who might benefit from this approach are usually those who study/use English for everyday communicative purposes, and who are not (and do not wish to be) familiar with phonetic transcription. In other words, our target group consists of elementary-, beginner, and lower-intermediate students of English (Sobkowiak, 1997), participants of specialised English courses (farmers, IT specialists, the white-collar personnel of international corporations, the elderly, etc.) or the users of travel phrasebooks (globetrotters, businessmen travelling abroad, exchange students, etc.). In such situations, what determines the exact form and level of precision of the presented pronunciation should not, strictly speaking, be the teacher's phonetic expertise but rather the down-to-earth communicative necessities and needs of the user/learner. Last but not least, an interesting question relating to the applicability of respelling during an EFL class at the primary school level may be raised. At first sight, one might be tempted to think that primary school children ought not to be exposed to letter-based phonetics as it might result in the fossilised pronunciation of English words and an inability to learn English sounds in the future. However, the reality of teaching English in Polish primary schools is that, in spite of its presence both in the curricula and in the widely available coursebooks, English pronunciation is still considered a topic secondary to grammar and vocabulary. In many schools, English phonetics is not introduced at all due to the fact that the teacher needs to concentrate on those elements which are crucial for basic communication, i.e. words and grammar. What this means is that fossilised pronunciation is very unlikely to develop because the students may actually never have the chance to be exposed to any kind of English phonetics practice in the first place. In other words, the great majority of Polish primary school level children will most probably never be required to learn and use English phonemes in their speech as English phonetics will not be introduced during EFL classes at any level of their education (unless they choose to study at a University English Department where they will be required to attend phonetics classes).

In addition to the above perspectives, the method of respelling may be claimed to perform a facilitative function as well. Firstly, the presentation of phonetics during an EFL lesson is simplified due to the fact that there is no need for the students to be familiar with the IPA. The teacher may use a code which draws directly from the orthography of the group's native tongue. Secondly, the time required to write the pronunciation of a considerable number of words on the board is noticeably shortened in reference to the standard phonetic script. The procedure reduces the time necessary for the group to copy the information into their notebooks as well. Thirdly, respelling allows the participants of the class to practice the material on the board immediately, which renders it ideal for choral repetition or drills. In other words, since the pronunciation on the board contains standard letters only, the students do not need to concentrate on each phonetic symbol trying to interpret it, but rather read the letters at a tempo similar to standard reading.

This way the students see their fast progress, do not become discouraged or frustrated, and hence benefit from this somewhat teacher-centred technique.

The final aspect of the application of respelled forms refers to their interpretation from the point of view of logic. When teaching the pronunciation of a foreign language we never encounter situations during an EFL class in which students leap directly from an utterly incorrect phonetic form to a native speaker's level of pronunciation. The process of learning the phonetics of a foreign tongue involves a fairly large number of stages which appear to be intermediate between the starting phase and the finishing level (which may itself equal native speaker's competence). In other words, phonetic precision does not constitute a binary, i.e. two-valued, phenomenon but rather it resembles a continuum of an infinite number of values ranging from the lowest one to the highest one. Four of those points (two intermediate and two extreme) along the continuum have been included in Table 5.

As can be deduced from Table 5, a respelled form has been presented under number three, i.e. the second intermediate form. The precise understanding of that fact may become clearer in view of the theory introduced by Lofti Zadeh which is known as *fuzzy logic*. According to that approach, the term *fuzzy* denotes one that "[…] cannot be sharply defined […]" (Nguyen & Walker, 2006, p. 1) and any of the intermediate stages may be characterised by the partial membership to any of the extreme values. Obviously, the kind of membership of interest to us is the extent

Table 5 Four levels of phonetic precision along the continuum

no.	English lexeme	Polish pronunciation	Respelled form	Explanation
1	water	[ˈvo̯at̪ɛr]	[ˈvater]	Spelling-based form; a Polish learner reads the word in exactly the same manner as he/she would read a Polish word; the lowest level of phonetic precision
2	water	[ˈwɔt̪ɛr]	[ˈłoter]	partly spelling-based form; the learner is aware of the fact that the letter 'w' may sometimes be sounded as [w] and that it is followed by an [o]-like vowel; the first intermediate level
3	water	[ˈwɔt̪ɛ]	[ˈłote]	pronunciation-based form; the learner is trying to copy the English sounds by providing their closest auditory Polish equivalents; the second intermediate form
4	water	[ˈwɔːtə]	N/A	native speaker's competence; the highest level of phonetic precision

to which a form belongs to item four, i.e. the native speaker's competence. In other words, a respelled form does not only constitute an intermediate stage but also a pronunciation which is compatible with item 4 to a certain degree (in other words, one which partly meets the criteria for being categorised as native). This, in turn, is caused by the fact that phonetic precision is not a binary but a vague concept. It is practically impossible to state whether a phonetic form has precision or not, but it is possible to state that pronunciation A sounds more native-like (that is, has a higher membership-to-item-four value) than pronunciation B. Using Lofti Zadehs words, fuzzy logic is "[…] an imprecise logical system, FL, in which the truth-values are fuzzy subsets of the unit interval with linguistic labels such as *true, false, not true, very true, quite true, not very true and not very false,* etc. […]" (Zadeh, 1975, p. 407). The author continues to state that "[…] the simplest way of characterizing fuzzy logic is to say that it is a logic of approximate reasoning," whose "[…] distinguishing features are (i) fuzzy truth-values expressed in linguistic terms […] (ii) imprecise truth tables; and (iii) rules of inference whose validity is approximate rather than exact (Zadeh, 1975, p. 407)." It may be true that our understanding of the technique of respelling is flawed because we tend to forget that phonetic precision is not a binary phenomenon, but a strictly fuzzy concept. A possible theoretical consequence of that new assumption is the fact that item 3 in Table 5 no longer proves to be only a simple sequence of letters reflecting the phonetic shape of an English word but rather it constitutes a formal letter-based attempt at capturing one of the transitional phases between the level of the absence of phonetics and the point at which a learner's pronunciation is native-like. Perhaps this is precisely the perspective that ought to be adopted., i.e. an interpretation of respelling as a step towards a native-like command of phonetics, a technique which enables the student instant access to communicative-level speech. This method allows the instructor to show to his group that communicative-level pronunciation is within their grasp, and, instead of just talking about the language, they will finally be able to use it in everyday situations. Instilling this kind of a sense of achievement which is available here and now into the students may be a powerful motivational tool which proves that success in speaking communicative English may come much sooner than expected.

8 Conclusions

The present paper contains an attempt at an objective discussion of the technique of respelling from a variety of different perspectives (logical, aesthetic, methodological, practical, facilitative). These angles appear to indicate that using letters of the native tongue to present the pronunciation of foreign words has both merits and limitations. However, the view advocated here is that respelling constitutes a limited-application instant-access tool which can be successfully used in the teaching

of approximate English pronunciation at levels ranging from beginner's to lower-intermediate. What is more, respelled forms seem to be ideal for phrasebooks due to the fact that a typical user is not interested in native-like pronunciation of English, but rather in a kind of speech that would be easily understandable to other non-native users of English. All in all, respelling appears to be a practical and motivational limited-use low-level pedagogical tool, an answer to the demands of the contemporary EFL teaching. Commercially speaking, it constitutes an instrument enabling schools to demonstrate the attractiveness of studying English (by showing that accomplishing the level of communicative English is within the reach of a student with average cognitive abilities) and remain competitive in the local EFL teaching market.

The author of this paper's favourable opinion on respelling stems from a deep conviction that the ultimate goal for the majority of realistically minded users/learners is not to speak English at the native-like level, but rather to be able to communicate with (non)-native speakers of the language in everyday situations. In other words, respelling may be considered a recommendable L1-sensitive pedagogical tool as long as one remembers that meeting the needs of the user/learner constitutes the central element of the didactic process.

References

Cymbalista, P., & Kleparski, G. (2002). Teaching vocabulary inevitably implies teaching pronunciation and hence elements of phonetic transcription (at any level). In G. A. Kleparski (Ed.), *The twists and turns of vocabulary teaching and testing. Papers from the Second British Council Sponsored Symposium held in Chelm in April 2002* (pp. 7-16). Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.

Gimson, A. C. (2001). *Gimson's Pronunciation of English. Sixth Edition. Revised by Alan Cruttenden*. London: Arnold.

Jassem, W. (1973). *Podstawy fonetyki akustycznej*. Warszawa: Państwowe Wydawnictwa Naukowe.

Nguyen, H. T., & Walker, E. A. (2006). *A first course in fuzzy logic*. Boca Raton: Chapman and Hall /CRC.

Sobkowiak, W. (1997). Radically simplified phonetic transcription for Polglish speakers. In J. Fisiak, R. Hickey, & S. Puppel (Eds.), *Language history and linguistic modelling. Festschrift for Jacek Fisiak on his 60th birthday*, (pp. 1801-1830). Berlin-New York: Mouton de Gruyter.

Sobkowiak, W. (2007). This is Tom = /zyzys'tom/. Pronunciation in beginners' EFL textbooks then and now. *Research in Language, 10(1)*, 1801-1830.

Sobkowiak, W. (2012). E-dictionaries and phonolexicographic needs of EFL users. *Lexikos, 17,* 134-151.

Wiśniewski, M. (1997). *Zarys fonetyki i fonologii współczesnego języka polskiego*. Toruń: Wydawnictwo Uniwersytetu Mikołaja Kopernika.

Zadeh, L. (1975). Fuzzy logic and approximate reasoning. *Synthese, 30*, 407-428.

Part II
Researching the Pronunciation of English

What to Teach and What Not to Teach, Yet Again: On the Elusive Priorities for L2 English Phonetics

Sylwia Scheuer

Abstract The author takes stock of the different, sometimes rather emotionally charged, and invariably overlapping, instalments of the discussion about the segmental elements of the English sound system that merit more attention than others. The claims that not everything can be taught in the EFL/ELF classroom, and not all types of deviation from the intended target norm are of equal gravity, are relatively undisputed. What is a matter of continuing debate, however, is how that target is defined and, consequently, which errors matter more than others. The paper will home in on three major types of yardsticks that have been used—or at least proposed—in recent years, or that could serve as benchmarks for evaluation purposes: strength of perceived foreign accent, intelligibility, and broadly understood aesthetic considerations. The overarching criterion of teachability will also be invoked. The aim of the paper is to tentatively identify types of errors that figure prominently in all the above, and consequently point to areas of L2 phonetics that may deserve to be tackled first and foremost. While English dental fricatives and vowels re-emerge in the discussion several times, the overall conclusion is, rather predictably, that matters of pedagogic priorities are far from straightforward, and the discussion is, and promises to be for years to come, ongoing.

1 Introduction

One of the recurrent themes in the field of L2 English phonetics in the past few decades has been the matter of pedagogic priorities. The question of what to teach and what not to teach, while painful and sometimes shameful, will inevitably face

English as a Foreign Language and English as a Lingua Franca, respectively. The terms are by no means interchangeable, but for the purposes of the present paper I do not think it necessary to treat the two learning settings separately.

S. Scheuer (✉)
University of Paris 3—Sorbonne Nouvelle, Paris, France
e-mail: sylwia_scheuer@yahoo.fr

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_8

even the most devoted of pronunciation instructors: given the enormous difficulty of the task, the multitude of phonetic variables to be practised, and, on the other hand, the limited time that can be devoted to pronunciation teaching at any level, it is clear that being selective in the L2 classroom is a dire necessity. Since teaching priorities are—presumably—determined by the relative salience of pronunciation errors, it seems crucial to examine the criteria that have informed the various interpretations of salience in this context. Consequently, one could attempt to rank the chunks of the English sound system in terms of their relative importance from the point of view of:

(1) Foreign accent criterion, whereby the level of achievement is measured against native speaker norms, and the successful learner is expected to sound as native as possible to the (usually native) listener.
(2) Intelligibility criterion, whereby the accomplished learner is capable of producing L2 English speech that is comprehensible to the (not necessarily native) interlocutor.
(3) Aesthetic/attitudinal considerations, which designate certain pronunciation errors as irritating to the listener.

Somewhat implicit in the previous three is the overarching criterion of teachability: after all, it only seems meaningful to discuss the relative importance of eliminating errors which *can* be eliminated at all through classroom work.

The following sections will look in more detail at the above criteria, with a view to establishing how they interact with each other, how various phonetic variables may be prioritized in each case, and whether some sort of 'common core'—areas that seem to be highlighted by all four sets of measures—could be tentatively proposed. In what I believe to be the research spirit embodied by Professor Sobkowiak's work, reference will frequently be made to empirical data provided by spoken L2 English corpora.

In particular, I will be referring to the Polish Inter-English corpus (PIEC, for short) that formed the basis of my PhD dissertation, supervised by Professor Sobkowiak himself. The corpus, thoroughly discussed in Scheuer (1998), consisted of recorded speech of 13 1st-year students of the School of English (Instytut Filologii Angielskiej) at Adam Mickiewicz University in Poznań. The data was obtained in two elicitation tasks—text reading and 'free' speech—at two points in time: first, at the very beginning (October 1995), and second, at the very end of the students' first academic year (May 1996). The recordings, whose total length exceeded 2 h, were transcribed phonetically by the present author. In those days, corpus linguistics was a relatively new field of study, the enthusiasm for which was subsequently spread by Professor Sobkowiak to an impressive number of his colleagues and students. A spoken, phonetically transcribed corpus of interlanguage speech was even more of a rarity, which may have made PIEC the first project of this kind in Poland, so I was very proud to present my work-in-progress report at the spiritual ancestor of the Accents conferences in Łódź in April 1996.

Another collection of linguistic data, this time French Inter-English oriented, that I will be making several references to is the tandem corpus that was recently

collected at the University of Paris 3 as part of the SITAF project.[1] The corpus, presented in detail in Horgues and Scheuer (forthcoming) consists of 30 hours' worth of linguistic data obtained from face-to-face conversational exchanges held by 21 pairs of undergraduate students, with each 'tandem' consisting of a native speaker of English and a native speaker of French. The dialogues and reading passages were both audio and video recorded on two occasions separated by a 3-month interval. The data is still in the process of being transcribed, but we hope that in the future it can be explored in a variety of different ways—some of which will allow for multimodal analysis of the interface between the speakers' phonetic, syntactic and gestural behaviour. Since we have recorded actual interaction between native and native speakers, there will be ample opportunity to study instances of communication breakdown, with a view to establishing which types of mispronunciation tend to compromise intelligibility more often than others and which phonetic errors appear to trigger the most corrective feedback from the native partner, even if—or, especially if—they do not impede communication.

2 Foreign Accent Criterion

There are a number of reasons why the foreign accent yardstick—conceptualised as the measure of 'non-nativeness' of one's phonetic output—occupies a special place in the theory and practice of the acquisition of any living second language. In the case of the majority of natural languages, native speaker norm—an idealised concept that it may be in itself—is simply the only norm that could reasonably be posited. Even if matters are considerably more complex in the case of English, especially in the context of its use a lingua franca of the modern world,[2] it is safe to say that traditional reference accents like RP or General American still remain the only standards that can be applied in the L2 English classroom with a fair degree of confidence or consistency, and are at least implicitly associated with recognised forms of certification.

That native competence was the ultimate—if unattainable—goal of any second language learning process, was for long decades regarded as an axiom. When I presented my research into foreign accent assessment at the Teaching FL Phonetics conference in Wąsosze in 2002, it did not even occur to me that my assumptions "that the goal of phonetic training is enabling the learner to pass for a native speaker" and if so, "the highest positions in the hierarchical list of errors should, logically, be occupied by those which make the learner speech *sound* foreign to the listener" (Scheuer, 2003, p. 93) could come to be seriously challenged.

[1] **S**pécificités des **I**nteractions verbales dans le cadre de **T**andems linguistiques **A**nglais-**F**rançais.

[2] Dziubalska-Kołaczyk and Przedlacka (2005) is just one instalment of the spirited debate over the (in)stability and (in)appropriateness of native speaker norms.

In my accent assessment experiment (discussed in more detail in Scheuer, 2003 and 2007), I elicited foreign accentedness judgements from 3 groups of judges: 5 native Polish and 5 native English teachers at the School of English, UAM Poznań, as well as 5 non-linguistically trained native speakers of Southern British English permanently residing in the UK. The listeners heard short samples of speech extracted from the PIEC corpus, produced by 13 speakers in 2 elicitation tasks (reading and speaking) and were asked to rate them on a 1–5 scale, where '1' stood for 'very strong foreign accent' and '5' for 'no foreign accent at all—definitely native'. The mean score given to the speakers by the 3 sets of judges was 2.23, 2.34 and 2.78, respectively. The relative leniency of the UK-residing judges in comparison with the other two groups was statistically significant ($p < 0.005$).

One of my primary objectives in conducting the study was to glean insights into the ranking of various non-native pronunciations in terms of creating the impression of foreign accent, and as a result—being true to my previously stated principle of what the goal of phonetic training was—to establish the relative importance of eradicating particular types of errors in the course of L2 acquisition. In order to relate the impressionistic evaluations of accent strength to the varying phonetic characteristics of the rated samples, I made reference to the phonetic transcription of the recordings, produced as part of my PhD project (Scheuer, 1998). As the excerpts played to the judges were very short (15–20 s), I was only able to consider a handful of general types of segmental errors in order for the analysis to make any statistical sense. The errors that appeared to be significantly correlated with foreign accent ratings in the case of the UK listeners were:

- 'other' vowel quality errors[3] ($r_s = -0.57$);
- 'non-schwas' in weak syllables[4] ($r_s = -0.51$);
- [i] for /ɪ/ substitution, as in *[ˈhil] for /ˈhɪl/ ($r_s = -0.48$).

While I cannot stress enough that the above hierarchy is very tentative only, it is still remarkable that all three types of errors whose frequency significantly correlated with accentedness scores concern the production of vowels. This finding might have very important pedagogical implications, if one does indeed assume that native speakers' perceptions are of any relevance at all.

Another interesting result of the above experiment regards a proverbial hallmark of a foreign accent in English that is the erroneous rendition of interdental fricatives. Although the error ranked first in the Polish judges' hierarchy ($r_s = -0.56$), the UK listeners seemed to be relatively immune to this acoustic cue (correlation $r_s = -0.15$, non-significant), meaning that the frequency of 'non-ths' in the phonetic

[3] 'Other' in the sense of being different from the ones covered by the two remaining vocalic categories.

[4] This error certainly encroaches upon the suprasegmental domain, but it can still be argued that in the case of Polish learners of English there is a vital segmental aspect to it. Transfer of L1 fast speech rhythmic patterns may lead to the reduction of the vowel in terms of quantity, but not necessarily quality, i.e. the resultant centralization of the sound cannot be taken for granted (cf. Sobkowiak, 1996).

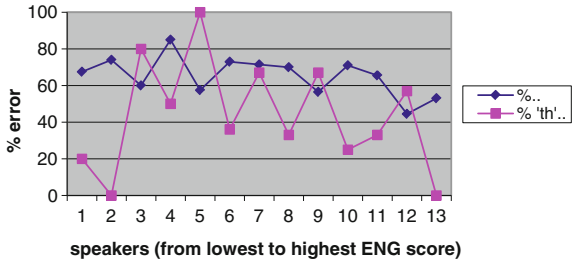


Fig. 1 Mean vowel error versus mean 'th' error in individual speakers (adapted from Scheuer, 2007)

output did not seem to make much difference to their judgments of foreignness. It is worth noting that Brennan and Brennan (1981) found a similar lack of correlation between the frequency of 'non-ths' and the mean accentedness score in their classic study of Spanish-accented L2 English speech.

Figure 1 demonstrates the relative (in)significance of vocalic and interdental errors to the strength foreign accent, as perceived by the UK judges. The speakers were arranged in accordance with their mean accentedness score (from lowest to highest, i.e. from the strongest to the weakest perceived foreign accent). One can notice the general tendency for speakers with weaker foreign accent to be characterised by fewer vocalic errors (i.e. the 'vowel error' curve slopes slightly down towards the right edge of the graph), whereas the distribution of interdental errors seems to be rather random in this respect (the shape of the 'th error' curve displays no visible pattern, as a function of accent strength).

Impressionistic measurements of foreign accent are naturally beset with a host of different problems: they are transient and subjective, heavily dependent on the type of listener as well as the particular experimental setting, and, on top of everything else, there is no reliable way of knowing what the listeners are *really* basing their judgements on. Although, as pointed out by Markham (1997, p. 97f), the listener is an "inherently subjective, and demonstrably inconstant source of information", (s)he still remains "the only truly linguistic measure" in this matter, which means that foreign accent is bound to remain an elusive criterion for determining pedagogic priorities. Nevertheless, however it is defined and measured, foreign accent is not normally regarded as a possession to be prized. Unfortunate and unfounded as such opinions may be, native and non-native listeners associate certain types of non-target pronunciations evident in L2[5] speech with specific—usually negatively judged—personality traits or lower intelligence. To quote but a few examples of research that found such evaluative assessments: the previously mentioned classic study by Brennan and Brennan (1981) showed that as the level of perceived accentedness increased from speaker to speaker, the naive judges awarded

[5] The phenomenon is certainly not limited to L2 speech (c.f. classic studies like Giles, 1970), but evaluative reactions to L1 accents lie outside the scope of this paper.

significantly lower status ratings. My own study (Scheuer, 2005a) suggested a correlation between degree of the speaker's foreign accent and the listener's irritation. More recently, Lev-Ari and Keysar (2010) demonstrated how the speakers' foreign accentedness adversely affected their credibility, in that statements spoken by a non-native speaker were judged to be less true than when spoken by a native speaker.

It is safe to say that native speakers and their norms have been getting a lot of bad press in the past 20 years, although perhaps not considerably so in Poland. Branded as irrelevant and over-judgemental, L1 English speakers are increasingly being refused the right to provide standards for English as an International Language (EIL), which belongs to *all* its users (McKay, 2002, p. 126), who therefore have every right to resist "the hegemony of the language by appropriating it for their own purposes" (Seidlhofer, 2011, p. 33). I do not even wish to attempt to summarise the, sometimes very heated, discussion about EFL/ELF standards that we have witnessed in recent years. However, I believe it was Professor Sobkowiak who actually introduced the Polish Anglicist community at large to the works of Jennifer Jenkins, a leading exponent of the ELF-ish paradigm, which most of us initially treated with disbelief more than anything else. His 2002 Wąsosze presentation (Sobkowiak, 2003) inspired countless papers, publications and workshops that promptly followed.

The 'new' approach advocates a thorough revision of phonetics syllabi away from admiration for, and imposition of, native speaker accents, which "are not only sociolinguistically inappropriate for communication in which NSs are rarely involved, but also psycholinguistically and socio-psychologically unachievable for the majority of adolescent or adult learners" (Jenkins, 2006, p. 36). What is put forward as the most appropriate criterion for EIL pronunciation is mutual intelligibility, which prompts Jenkins (e.g., 2000, 2007) to propose a minimal set of features claimed to be essential to safeguarding international communication, known as the Lingua Franca Core (LFC).

3 Intelligibility Criterion

Understood as a feature of speech that enables the hearer to recognise words/utterances at the phonetic level (e.g., Andreasson, 1994), intelligibility hardly requires vindication as a factor in gauging the relative gravity of L2 pronunciation errors. After all, the primary function of language is communication, and if that is jeopardised, one is more than justified in trying to eliminate the source of the problem before moving on to higher-level considerations like sounding aesthetically pleasing to the listener. Therefore, if pronunciation instruction had to be limited to a bare minimum, intelligibility seems to be a reasonable, if again elusive, bottom-line criterion to adopt when selecting the phonetic features to be taught.

Rather confusingly, unintelligibility in L2 speech is often conceptualised as a simple concomitant of the speaker's foreign accent. Difficult as it may be to

dissociate the two notions completely, they are certainly not synonymous, and the relationship between foreign accent and intelligibility is complex and not straightforwardly implicational. In other words, if someone is unintelligible, this does not necessarily imply a foreign accent (they may be emulating an unfamiliar *regional* dialect), and conversely, a foreign accent does not always render the speaker unintelligible: numerous examples of proficient non-native speakers of English suffice to demonstrate that one can be perfectly intelligible and still sound noticeably foreign. Also, while it is reasonable to assume that intelligibility decreases as foreign accent increases, the reverse may not necessarily be true, in view of studies suggesting that certain features of native (even standard) speech make the speaker harder to understand for the uninitiated listener (e.g., the use of weak forms is labelled "unhelpful to intelligibility" in Jenkins, 2007, p. 24). That last observation points to another complicating factor in dissecting intelligibility—just like with foreign accent, whether a given word/utterance is or is not recognizable will to a large extent depend on the listener, rather than on the objectively measurable features of the speaker's phonetic output. Here one could mention the listener's proficiency level, their familiarity with a particular accent, and even their willingness to understand the speaker (Chambers & Trudgill, 1998, p. 4).

A logical extension of the assertion that foreign accent and unintelligibility do not always go hand in hand is the conclusion that non-native pronunciations and pronunciations leading to unintelligibility do not necessarily coincide. However, the latter will, for the most part, be just a subset of those signalling foreignness to the listener. Every experienced language learner would certainly agree that there is a world of difference between reaching a level of competence that makes you fairly intelligible (at least to proficient listeners) and managing to eradicate traces of your specific L1 accent, let alone sounding completely like a native speaker.

While it can be argued that any mispronunciation has the capacity for miscommunication (e.g., Beebe, 1987), one naturally expects mistakes that result in actual or potential lexical confusion to rank higher in this hierarchy than simple non-native productions. In the context of the present discussion, this could be paraphrased by stating that what the teacher should attend to in the first place is phonemic contrasts and minimal pairs, tailored to the needs of a particular L1 learner population. That conclusion, however, does not simplify the daunting task at hand in any substantial way and does not aid the teacher in the inescapable selection process. Jenkins's LFC model comes to the teacher's rescue by designating vowel (unlike consonant) quality as a non-core feature, i.e. one that does not seem to jeopardise international intelligibility, provided that L2 consistent regional qualities are used (e.g., 2007, p. 24). Whether qualitative distinctions are indeed predominantly communicatively redundant in L2 English speech is certainly disputable: one could quote numerous examples of how the distortion of a vowel's identity causes—or at least substantially contributes to—genuine lack of understanding, some of which are discussed in Horgues and Scheuer (forthcoming). If vowel quality turned out, indeed, to be primarily redundant, it would serve as a classic example of a phonetic feature that—if distorted—has enormous potential for producing foreign accent without adversely affecting communication. On the other hand, lack of unstressed vowel reduction

represents a slightly different case, as far as the relationship between the two criteria is concerned. It is reasonable to assume that maintaining vowel contrasts in unstressed syllables should promote intelligibility, as the underlying spelling remains fairly transparent, thus making words easier for international listeners to recognize. This, however, is in conflict with attempts at sounding native, since 'non-schwas' turn out to be major contributors to foreign accent.

Where intelligibility-oriented proposals like the LFC seem to concur with the foreign accent narrative is on the matter of interdental fricatives. As the findings reported in Sect. 2 suggested, 'non-th's do not tend to strengthen the impression of foreignness, at least in the case of native listeners. At the same time, they are considered to be non-core features, which do not normally compromise intelligibility. This assertion finds further support in the study of the corrective feedback attested in the SITAF corpus, presented in detail in Horgues and Scheuer (forthcoming). Various native English speakers, although correcting their partners' erroneous renditions of 'th's, made a point of stressing that those did not in any way impede their understanding of what was being said—something that I will return to in the following section.

4 Aesthetic and Attitudinal Considerations

The statement that different (mis)pronunciations may prompt different reactions on the part of the listener is a platitude. While certain types of phonetic deviation from the norm may be regarded as 'cute' or even 'extremely charming',[6] others will, sadly, be branded as unpleasant or even irritating. Since causing annoyance is hardly ever what learners aim to achieve through their L2 pronunciation, it stands to reason that eliminating errors that produce that effect may also be high on the agenda. Here, however, one stumbles upon the difficult question of how to determine what is irritating to the listener? It definitely must not be regarded as a simple concomitant of unintelligibility, as evidenced by substitutions of [z] for English < th >, regarded as annoying by fellow non-native speakers, although totally inconsequential to intelligibility (Jenkins 2000, p. 138). In a similar vein, Markham (1997, p. 101) observed—although in the context of L2 Swedish—that "[c]uriously, the more negatively judged errors are ones which do not cause lexical confusion /…/—they are simply non-native pronunciations –, whereas the more acceptable errors can cause lexical confusion."

Just like the factors discussed in the earlier sections of the paper, irritability is a highly subjective feature. It varies therefore not only with the linguistic background of the listener, but also with his/her attitude—informed by national or racial prejudice—towards specific L2 accents identified (not necessarily correctly) through

[6] These were indeed some of the adjectives used by native English contributors to the SITAF corpus when asked to describe French-accented English in general.

specific L1-induced pronunciation features. This is aptly illustrated by Cunningham-Andersson's (1997) investigation of the assessment of friendliness and intelligence of a group of immigrants covering a wide spectrum of native languages, made on the basis of their L2 Swedish accent. Listener judgements made it clear that "overall differences between speakers, such as voice characteristics, accent strength and believed ethnic origin of the speaker are more important than the particular type of non-native pronunciation used" (1997, p. 142). On the other hand, her study did reveal that certain non-native pronunciations carry more severe social stigmatisation than others: for example, erroneous voicing of fortis consonants sounded unfriendly, whereas speakers with a tendency towards [ŋ] for /n/ substitution were considered less intelligent than others.

To return to the more familiar L2 English context, let us revisit the old favourites—the dental fricatives. In view of the fact that their erroneous renditions do not tend to markedly influence accentedness scores, coupled with assertions that those errors are inconsequential to intelligibility, the English 'th's can hardly claim to be priority candidates for teaching, as the added bonus resulting from their mastery seems to be rather insignificant. However, quite predictably, there is more to the /ð/ than meets the eye. The preliminary analysis of the corrective feedback in the SITAF corpus shows that failure to produce dental fricatives was among the errors that most of our native speakers were not ready to ignore, even though—by their own admission—intelligibility was not at stake. One is thus justified in hypothesising that we are dealing with an irritating, rather than communicatively detrimental, error. Sometimes the correction took the form of a mini-speech, as was the case with the speaker who commented on his French partner's renditions of < th > as [s] in the following way: "'North', with a 'th' at the end. That's probably a tricky one, but, really, get the /θ/: 'north' /…/ Again, I completely understood you, but /…/". In the same spirit, although as if speaking on behalf of native English speakers in general, another participant reassured his partner as follows: "The only suggestion that I could make for you was the /θ/ sound /…/ I mean I… we could completely unders I'm sure… I could completely understand you, and everyone else could, but… erm… instead of [zi] it's /ˈði:/".

It is worth noting that both the above instances of corrective feedback were triggered by the [s]-[z] for /θ/-/ð/ substitution, which reinforces the idea that this kind of error is indeed annoying to the listener and should perhaps come to the fore in the L2 phonetics teaching hierarchy. Further support for this claim was provided by the answers to the questionnaires that the tandem project participants were asked to fill in after the final recording session (Horgues & Scheuer, forthcoming). Eight of our 21 NS participants singled out 'th'-s as particularly problematic in the case of French-accented English, while 4 of them went as far as branding this type of mistake as "annoying without necessarily hindering comprehension". On the other hand, six participants considered English vowels as being especially challenging for the French learners, or frequently mispronounced by them in an irritating way. While 'vowels' is admittedly too general a label to be of immense practical value of itself, some comments clearly referred to lack of distinction—or simply confusion—

between short and long sounds.[7] Such remarks certainly strike close to home. A number of recent studies have shown Polish speakers of English to be insufficiently attentive to L2 vowel duration contrasts, both in perception and production (e.g., Waniek-Klimczak, 2005; Rojczyk, 2010). That, in turn, highlights the fact that there is indeed much more to the mastery of English vowels than the qualitative distinctions—something that is perhaps underestimated in the Polish EFL/ELF classroom and something that pronunciation instructors may also want to bear in mind when deciding on teaching priorities.

5 Teachability

Perhaps surprisingly, teachability is relatively seldom invoked in discussions about pedagogic priorities. This may be due to the fact that L2 theorists and practitioners are likely to feel rather uncomfortable with the idea that certain elements of L2 grammar are 'unteachable' and therefore resistant to their instructional efforts. The notion of teachability—in the sense that learning follows teaching—is also one of the pillars of the LFC paradigm, in that "there seems to be a one-to-one correspondence between the *relevant* (items essential for EIL intelligibility) and the *realistic* (items which are teachable), and between the *irrelevant* and the *unrealistic*" (Jenkins, 2000, p. 165f; original italics). One cannot help having the impression that this line of reasoning vastly oversimplifies the picture. As Sobkowiak (2005, p. 140) points out, "[t]he belief that English pronunciation is both unteachable and unlearnable, because it is too difficult, spreads like wildfire among the supporters of LFC". Understood in the above sense, the 'teachable versus unteachable' distinction would seem to remove a substantial burden of responsibility from the teachers of phonetics: they face an easy task in the case of the 'relevant' areas (students are highly motivated themselves and learn without difficulty), whereas in the case of the 'irrelevant' they may spare themselves the vain effort involved in engaging in a task that is anyway doomed to failure. Another problem with thus defined 'unteachability' is that of verification: it is generally much more difficult, if not impossible, to prove that something does *not* exist than the reverse. Even if learning does not follow teaching in an immediate and spectacular way, didactic endeavours may bear fruit at a later stage of language acquisition: by means of sensitizing the learner to certain articulatory/auditory nuances, the teaching process is likely to lay the ground for the learning process that leads to improved performance accuracy over time.

A number of recent studies of phonetic behaviour of Polish students of English demonstrate that items that could be regarded as unteachable (by virtue of being

[7] Considering the phonetic output previously produced by their French partners, however, one can speculate that at least some of those remarks regarded failure to produce diphthongs, e.g. 'take' being rendered as *[ˈtɛk].

'irrelevant' to intelligibility) do respond to pedagogic treatment, even if that response is not as robust as one might have wished. For example, both Nowacka (2010) and Lipińska (2013) found gradual improvement in their subjects' performance on the /æ/ vowel, whose exact quality certainly represents a considerable challenge to the Polish learner. On the whole, Nowacka's comprehensive study reported improvement on 66 % of the consonantal and 50 % of the vocalic features she investigated. Interestingly though, she observes that "there is a substantial dependence between the phonetic syllabus and the students' progress. This means that what improved in the first place was the pronunciation of consonants, then of vowels, and, finally of suprasegmentals, in agreement with the order in which these issues were taught" (2010, p. 255). To paraphrase it in an optimistic way, we may conclude that what is teachable is what is actually taught (what is taught becomes teachable), and the longer an item is taught the better the chances of success.

On another optimistic note, one of the reassuring findings of the analysis of the PIEC corpus from the teachability perspective (presented in Scheuer, 2005b) was that the students' handling of the 'th's ('irrelevant' features) did improve over the course of 8 months separating the two recording sessions. However, the progress was statistically significant ($p < 0.005$) only for the 'reading' as well as the two tasks lumped together, but not for 'speaking' considered alone, even though the raw figures did point to a change in the right direction. Another problem highlighted by the study was the subjects' performance on the /iː/ vs /ɪ/ distinction, which—if one adopts the 'relevant = teachable' equation—should show every sign of teachability, but which Nowacka's (2010) study designates as resistant to change. My analysis revealed that things were far from straightforward. Although the frequency of [i] for /ɪ/ substitutions fell by a quarter in 'reading' (from 38.7 % in October to 28.6 % in May), it considerably rose in 'speaking'—from 31.6 % in October to 34.1 % in May, i.e., by as much as 8 % (2-way ANOVA, interaction effect significant at $p < 0.01$). This combined improvement/deterioration pattern is rather intriguing, and—although it does not imply that any of the above phonetic variables are unteachable—it goes to show that certain areas of L2 English sound system may require more vigilance than others. The '*[ˈhil] for /ˈhɪl/' type of error is, demonstrably, Polish students' Achilles' heel: a problem which may actually get worse even though the overall L2 fluency and phonetic performance improves.

6 Conclusions

By way of introduction to the conclusion, I may reiterate that "contrary to what might be inferred from the title of the paper, the author certainly does not wish to claim that there are, in fact, areas of English phonetics that are not worth teaching at all" (Scheuer, 2003, p. 98). Sadly, not everything can be taught within the limited amount of time that is usually available, which means that teachers invariably do find themselves making choices. That is not to say, however, that these choices are made in accordance with any consistent selection policy, or even consciously at all.

Leaving aside the obvious dichotomy between 'what do we teach' and 'what should we teach' (e.g., Schwartz, 2005), we must not ignore such down-to-earth reasons behind teachers' choices like personal convictions, personal preferences and personal habits. Very frequently the choices will already have been made for the teacher before Lesson 1 even begins—as a function of what the workbook says, what the syllabus says, and, crucially, the way the students are going to be evaluated (if at all) at the end of the learning cycle.

By way of final conclusion the author wishes to observe that most, if not all, of the questions raised in the context of pedagogic priorities in the past 20 years are as valid today as they once were: the dilemma over what to teach and what not to teach, whichever of the elusive selection criteria one decides to adopt, is not likely to be resolved any time soon.

References

Andreasson, A. M. (1994). Norm as a pedagogical paradigm. *World Englishes, 13(3),* 395-409.

Beebe, L. M. (1987). Myths about interlanguage phonology. In G. Ioup, & S. G. Weinberger (Eds.), *Interlanguage phonology: The acquisition of a second Language sound system* (pp. 165-175). Cambridge, MA: Newbury House.

Brennan, E. M., & Brennan, J. S. (1981). Measurements of accent and attitude toward Mexican-American speech. *Journal of Psycholinguistic Research, 10,* 487-501.

Chambers, J. K., & Trudgill, P. (1998). *Dialectology*. Cambridge: Cambridge University Press.

Cunningham-Andersson, U. (1997). Native speaker reactions to non-native speech. In A. James, & J. Leather (Eds.), *Second-Language speech. Structure and process* (pp. 133-144). Berlin: Mouton de Gruyter.

Dziubalska-Kołaczyk, K., & Przedlacka, J. (Eds.) (2005). *English pronunciation models: A changing scene. A democratic accent for the global village?* Frankfurt a/M: Peter Lang.

Giles, H. (1970). Evaluative reactions to accents. *Educational Review, 22*, 211-227.

Horgues, C., & Scheuer, S. (forthcoming). Why some things are better done in tandem.

Jenkins, J. (2000). *The phonology of English as an International Language*. Oxford: Oxford University Press.

Jenkins, J. (2006). Global intelligibility and local diversity: possibility or paradox? In R. Rubdy, & M. Saraceni (Eds.), *English in the world. Global rules, global roles* (pp. 32-39). London: Continuum.

Jenkins, J. (2007). *English as a Lingua Franca: attitude and identity.* Oxford: Oxford University Press.

Lev-Ari, S., & Keysar, B. (2010). Why don't we believe non-native speakers? The influence of accent on credibility. *Journal of Experimental Social Psychology, 46*, 1093–1096.

Lipińska, D. (2013). Influence of formal instruction in English phonetics and phonology on Polish learners' production of English /æ/. In J. Przedlacka, J. Maidment, & M. Ashby (Eds.), *Proceedings of the Phonetics Teaching and Learning Conference UCL, London, 8-10 August 2013* (pp. 59-62). London: Phonetics Teaching and Learning Conference.

Markham, D. (1997). *Phonetic imitation, accent and the learner.* Lund: Lund University Press.

McKay, S. L. (2002). *Teaching English as an international language*. Oxford: Oxford University Press.

Nowacka, M. (2010). The ultimate attainment of English pronunciation by Polish college students: a longitudinal study. In E. Waniek-Klimczak (Ed.), *Issues in accents of English 2. Variability and norm* (pp. 233-257). Newcastle: Cambridge Scholars Publishing.

Rojczyk, A. (2010). Temporal parameters in the implementation of the voicing contrast in English spoken by Poles: a pedagogical perspective. In A. Henderson (Ed.), *English pronunciation: Issues and practices (EPIP). Proceedings of the First International Conference* (pp. 159-175). Chambéry: Université de Savoie.

Scheuer, S. (1998). Interference-motivated pronunciation errors in Polish students of English: A corpus-based study. Unpublished PhD dissertation.

Scheuer, S. (2003). What to teach and what not to teach? Some reflections on the relative salience of interlanguage errors. In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyty Naukowe PWSZ w Koninie 2* (pp. 93-99). Konin: Wydawnictwo PWSZ.

Scheuer, S. (2005a). Why native speakers are (still) relevant? In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: A changing scene. A democratic accent for the global village?* (pp. 111-130). Frankfurt a/M: Peter Lang.

Scheuer, S. (2005b). L1 transfer in a PC world: why not the Lingua Franca Core again? *Papers and Studies in Contemporary Linguistics*, 40, 197-207.

Scheuer, S. (2007). Why certain errors seem to matter more than others, or: what is wrong with native speakers being right? *Speak Out!, 38*, 17-21.

Schwartz, G. (2005). The Lingua Franca Core and the phonetics-phonology interface. In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: A changing scene. A democratic accent for the global village?* (pp. 177-198). Frankfurt a/M: Peter Lang.

Seidlhofer, B. (2011). *Understanding English as a Lingua Franca.* Oxford: Oxford University Press.

Sobkowiak, W. (1996). *English phonetics for Poles.* Poznań: Bene Nati.

Sobkowiak, W. (2003). Dlaczego nie LFC? In W. Sobkowiak, & E. Waniek-Klimczak (Eds.), *Zeszyty Naukowe PWSZ w Koninie 1/2003 (2)* (pp. 114-124). Konin: Wydawnictwo PWSZ.

Sobkowiak, W. (2005). Why not LFC? In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: A changing scene. A democratic accent for the global village?* (pp. 131-149). Frankfurt a/M: Peter Lang.

Waniek-Klimczak, E. (2005). *Temporal parameters in second language speech: An applied linguistic phonetics approach.* Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Compiling a Corpus-Based List of Words Commonly Mispronounced

Magdalena Zając

Abstract The inspiration for the paper was professor Sobkowiak's list of Words Commonly Mispronounced (Sobkowiak, 2001), a collection of over six hundred pronunciation errors that are habitually made by Polish learners of English. The paper explores the ways in which lists such as Words Commonly Mispronounced could be "upgraded" using corpus linguistic tools. The paper describes the results obtained in a previous study (Zając & Pęzik, 2012), whose aim was to compile a corpus-based index of frequent mispronunciations in the speech of Polish learners of English and which used data from the spoken component of the Polish Learner English Corpus PLEC. The paper discusses the list obtained by Zając and Pęzik, describes and evaluates the process of creating the list, and compares the corpus-based index with Words Commonly Mispronounced. The difficulties related to the compilation of lists of common mispronunciations (both corpus-based and "traditional") are also examined. The general conclusion that can be drawn from the analysis is that employing corpus linguistic tools to examine L2 pronunciation errors may enable one to create a thorough and reliable collection of commonly mispronounced words, which can constitute an effective and powerful tool in pronunciation teaching and learning. At the same time, careful examination of the corpus-based list and the process of its creation reveal that, just as in the case of compiling a list of common mispronunciations using "traditional" methods, creating a corpus-based index of pronunciation errors entails certain problems that need to be addressed when attempting to produce such a list.

1 Introduction

Sobkowiak's Words Commonly Mispronounced, provided in one of the appendixes of his *English pronunciation for Poles* (Sobkowiak, 2001), is a notable collection of over six hundred English words that are frequently mispronounced by Polish learners.

M. Zając (✉)
University of Łódź, Łódź, Poland
e-mail: zajac1234@gmail.com

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_9

As explained by the author, the items on the list have been "(…) collected from experience as well as other books on English phonetics" (Sobkowiak, 2001, p. 350). Words Commonly Mispronounced (Sobkowiak, 2001) lists the troublesome English words together with their correct realisation (in this case, the standard British English pronunciation) and the most common erroneous realisation by Polish learners. The words are ordered by their frequency of occurrence, which seems to be based on frequency counts performed over a dictionary of English and over a stretch of running English text.[1] It is assumed that the words which can be found at the very top of the list will be problematic mostly for beginners, whereas the words placed closer to the end of the index may prove difficult to pronounce for advanced learners as well.

As observed by Szpyra-Kozłowska and Stasiak (2010, p. 3), "(…) although the list is placed in the appendix and thus is marginalized in the book, it belongs, as is often admitted, to the most frequently used parts of it." This is hardly surprising since an index of words that are commonly mispronounced by learners of English seems like a neat and simple way of substantially improving one's pronunciation in a relatively short amount of time and with relatively little effort. In English pronunciation teaching, such a list can supplement the practice of L2 segmental and prosodic features and can be employed to set teaching priorities, thus improving the effectiveness of instruction. One could also argue that a list of words that are commonly mispronounced could be easily integrated into English lessons at schools and be used by teachers who are less familiar or feel less comfortable with the English sound system. Finally, it can serve as an outside-of-school resource material that, arguably, could be utilized even by beginner learners of English with little phonetics and phonology training.

Even so, the list of Words Commonly Mispronounced (Sobkowiak, 2001) does appear to have a few weaknesses. First of all, it contains a number of rare and/or specialised pieces of vocabulary such as *plaid, vineyard, resound, nestle, bather, duplication*, etc. Since these items seem to occur in L2 speech relatively infrequently and, consequently, do not need to be given high priority in pronunciation teaching, they could perhaps be replaced with pronunciation errors that are more frequent in learner language.[2] Secondly, and more importantly, how is one to know which mispronunciations included in Words Commonly Mispronounced (Sobkowiak, 2001) or any other similar list are indeed the most common or frequent ones in learner speech? In fact, some seemingly notorious pronunciation errors could turn out to be isolated incidents that, for one reason or another, happened to catch phoneticians' attention. Rare pieces of vocabulary can be singled out as words commonly mispronounced simply because they are seldom used and

[1] However, the source of the frequency ordering in Words Commonly Mispronounced (Sobkowiak, 2001) is not clearly specified.

[2] Unless, of course, we take the phrase 'common mispronunciation' to mean that a given word is usually mispronounced whenever it is used, and not that it is frequently mispronounced in general. Still, a rare word that is mispronounced whenever it is used does not necessarily constitute a teaching or learning priority.

mispronouncing them is particularly striking and memorable. It is also possible that, for similar reasons, some common pronunciation errors go largely unnoticed.

Overall, although a list such as Words Commonly Mispronounced (Sobkowiak, 2001) is certainly an ingenious and useful tool for teaching and learning English pronunciation, an index that is based solely on a given phonetician or phoneticians' expertise does have certain limitations. These limitations, it would seem, could be overcome by adopting a corpus linguistic approach. Working on a representative corpus of learner speech should enable one to carry out a thorough analysis of pronunciation errors and, once these errors are identified, make it possible to quantify them easily. Thus, one should be able to compile an objective and reliable list of mispronunciations that are found to be the most frequent ones in learner language. An attempt to produce such a corpus-based index was made by Zając and Pęzik (2012), who used data from the spoken component of the Polish Learner English Corpus PLEC (http://ia.uni.lodz.pl/plec/). The aim of this paper is to describe the process of compiling a corpus-based index of frequently mispronounced words, discuss the most frequent pronunciation errors in the PLEC corpus, compare the corpus-based index with Words Commonly Mispronounced (Sobkowiak, 2001), and, finally, discuss the problems related to creating a corpus-based list of mispronunciations.

2 Compiling a Corpus-Based List of Mispronunciations

The following subsections discuss data collection for the PLEC corpus and the type of participants that were recorded, the process of defining a pronunciation error (which is central to the compilation of a corpus-based index of mispronunciations) and the format that was used to annotate the pronunciation errors in the corpus. The final subsection describes the results of the study by Zając and Pęzik (2012), i.e. the obtained list of the 50 most frequent mispronunciations in the PLEC corpus.

2.1 The Corpus

The Polish Learner English Corpus PLEC (http://ia.uni.lodz.pl/plec) comprises time-aligned interviews of Polish learners of English (200,000 words). The recordings were transcribed orthographically, time aligned and annotated for pronunciation errors. The participants were mostly advanced and intermediate learners of English (ranging from B1 to C2 proficiency levels); some speakers with elementary knowledge of English were also recorded (A1 and A2 proficiency levels). The group of participants consisted of students of English Studies recruited from the University of Łódź, secondary school students, junior high school students and adult learners. The subjects were interviewed about their hobbies and/or instructed to describe pictures and answer picture-related questions. The interviews were conducted alternately by a fifth-year student of English studies and three academic

teachers of English. The interviewers' speech was included in the analysis of pronunciation errors. The number of participants (together with the interviewers) totalled 130 speakers.

2.2 Defining a Pronunciation Error

A crucial stage of compiling a corpus-based list of frequent mispronunciations is coming up with a working definition of a pronunciation error that will be used to determine whether a particular realisation of a word should be treated as erroneous and included in the analysis. Zając and Pęzik (2012) decided to focus on pronunciation errors that involve segment substitutions and/or incorrect stress placement which are *not* caused by regular features of a Polish accent. Table 1 provides examples of the types of errors that were included/not included in the analysis.

The idea behind concentrating on mispronunciations that are *not* caused by regular features of a Polish accent was that, presumably, the resulting list would not require a detailed knowledge of the English sound system in order to understand the errors. This way, the list could be utilized not only by students of English studies or pronunciation enthusiast but also by teachers and learners who are less familiar with phonetics and phonology and/or learners of English for whom pronunciation is not a top priority.

The mispronunciations on the corpus-based list compiled by Zając and Pęzik (2012) are different from those listed in Words Commonly Mispronounced (Sobkowiak, 2001) in that the latter list includes mispronunciations that could be treated as resulting from regular features of a Polish accent (e.g., *which* pronounced with

Table 1 Types of pronunciation errors included and not included in the analysis in Zając and Pęzik's (2012) study

Excluded from the analysis	Included in the analysis
Polish-accented realisation of a vowel category (e.g., replacing the KIT vowel with Polish /i/, replacing the TRAP vowel with Polish /a/, replacing the THOUGHT vowel with Polish /o/, etc.)	Wrong stress placement (e.g., placing stress on the second syllable in *area,* placing stress on the first syllable in *event*, etc.)
Polish-accented realisation of a consonant category (e.g., realising dental fricatives as Polish /t d/, realising /h/as Polish /x/, realising dark /l/as clear /l/, etc.)	Replacing one vowel category with another (e.g., using the STRUT vowel in *butcher*, using the GOAT diphthong in *broad*, etc.)
Using full vowels in unstressed syllables (e.g., pronouncing the second syllable of *doctor* with a full vowel, etc.)	Replacing one consonant category with another (e.g., replacing /s/with /z/in *basic*, replacing /ʃ/with /ʒ/in *Croatia*, etc.)
Failure to maintain the voiced-voiceless contrast in English final obstruents (e.g., realising *eggs* as *ex*, *bag* as *back*, etc.)	Adding (or omitting) a sound (e.g., realising *lamb* with/b/, realising *debt* with/b/, etc.)

Polish /i/, *water* realised with Polish /o/, *suppose* pronounced with a full vowel in the unstressed syllable). Another difference is that a given realisation of a word was treated as erroneous if, as opposed to Words Commonly Mispronounced (Sobkowiak, 2001), it deviated from the pronunciation of said word in Standard Southern British English (SSBE) *and* General American (GenAm). In order to determine whether a given realisation can be found in either of these accents, Longman Pronunciation Dictionary (Wells, 2008) was consulted.

2.3 Annotating the Mispronunciations

The annotations of pronunciation errors were created manually by the author of this paper using ELAN Linguistic Annotator (http://www.lat-mpi.eu/tools/elan/; Sloetjes & Wittenburg, 2008). The time-aligned mispronunciations were marked using the following format: erroneous realization (IPA)|orthographic form|correct pronunciation (IPA), e.g. dɒnt|don't|dəʊnt. The mispronunciations were transcribed with the IPA symbols used for SSBE and not the symbols used for Polish (or GenAm), as it was assumed that it would facilitate the process of annotation. Also, when a given erroneous realization involved mispronunciations that were judged to have been caused by regular features of Polish accent, the mispronounced segments were transcribed as if they were realized native-like. For example, *Disney* pronounced as [ˈdʲisnej] would be transcribed as /ˈdɪsneɪ/, *foreign* realized as [fɔˈrejn] would be transcribed as /fəˈreɪn/. Similarly as in the case of SSBE phonetic symbols, this method of annotation was selected in an attempt to simplify the process.

2.4 The List of Frequent Mispronunciations

The complete list of fifty most frequently mispronounced words in the PLEC corpus can be found in the Appendix. The errors are arranged according to the total number of occurrences of a given mispronunciation in the corpus and the number of times a given word was mispronounced by different speakers. The results indicate that one of the most frequent types of mispronunciation in the PLEC corpus was replacing the GOAT diphthong with an open or mid back rounded vowel, as in *don't, old, also, Polish, only, Poland, older, told, photos, whole, most* and *moment*. Another common error was using an open or mid back rounded vowel in place of /ʌ/in *some, love, other, something, front, London, colours* and *company.* Similarly, an /o/-like vowel was often used to replace the NURSE vowel in *work, world* and *words*. Many items on the list of the 50 most frequent mispronunciations are words that have been misstressed by the participants, i.e. *kilometres, computer, interested, interesting, recommend, develop, exam(s), guitar, event(s), foreign.* Some other frequent errors include mispronouncing the digraphs < ei > and < ey > as in *their, volleyball* and *foreign*. The words *Warsaw* and *abroad* are also on the list,

illustrating that the participants often replaced the THOUGHT vowel with the GOAT diphthong. Other frequent errors in the PLEC corpus are the mispronunciations of the following words: *aren't, hobby, chemistry, biology, Czech, singing, education, fantasy, half* and *languages*. Overall, the list comprises many function words (e.g., *don't, their, some, also*) as well as words that are relatively infrequent in native-English corpora such as the British National Corpus and the Corpus of Contemporary American English (The British National Corpus, 2007; Davies, 2008), e.g. *volleyball, Warsaw, Czech* or *Polish.*

3 Discussion

The goal of the study by Zając and Pęzik (2012) was to provide a list of frequent mispronunciations in the spoken component of the Polish Learner English Corpus PLEC (http://ia.uni.lodz.pl/plec/). The following subsections discuss the results of the study. First, there is a more general discussion of the mispronunciations that were found to be the most common in the PLEC corpus; the possible sources of some of these errors and the possible reasons why certain types of errors appear on the list are described. Next, the list obtained by Zając and Pęzik (2012) is compared with Sobkowiak's (2001) Words Commonly Mispronounced.

3.1 General Discussion

The majority of the pronunciation errors on the list of 50 most frequently mispronounced words in the PLEC corpus seem to stem from inappropriate interferences from spelling, a trend that is especially visible in the case of the letter < o>, mispronounced as open to mid back rounded vowel, which is an approximation of this letter's realisation in Polish. Erroneous realisations of words such as *hobby, chemistry* and *Czech* seem to be strongly affected by Polish spelling conventions also. A similar phenomenon was observed, for instance, by Piske et al. (2002), who examined the realisation of English vowels by native Italian speakers and discovered that some participants' realisation of certain phones was affected by L1-inspired spelling conventions.

Some frequent mispronunciations in the PLEC corpus, on the other hand, appear to result from an overgeneralization of *English* spelling conventions, e.g. many participants realised *abroad* with the GOAT diphthong, probably due to the fact that the digraph < oa > is often realised as /əʊ/in English (*road, coast, coat, moan, goat, throat, load*, etc.). Other frequent errors on the corpus-based list (e.g., *volleyball, aren't, foreign, their*) appear to be linked to the words' spelling, but do not lend themselves to easy categorization. Regardless of the exact source of the spelling interference, the results of the study by Zając and Pęzik (2012) lend support to a statement made by Wells (2005, p. 104) that "[m]any oddities of the

NNS pronunciation of English are due to inappropriate interference from the spelling."

Another finding in the study by Zając and Pęzik (2012) is that many of the most frequent pronunciation errors in the PLEC corpus involve incorrect stress placement. Some examples of such mispronunciations are the words *computer* and *guitar* realised with primary stress on the first syllable. This tendency may be brought about by an overgeneralization of syntactic category based rules. Waniek-Klimczak (2002) and Archibald (1997) found that Polish learners of English tended to use word-initial stress in nouns, presumably because primary stress in English nouns frequently falls on the first syllable, and Polish learners extended this rule also to those lexical items to which it does not apply. Another source of stress-related errors may be L1 transfer. Stress in Polish is fixed on the penultimate syllable and this may be the reason why the participants realised words such as *ˈkilometres, ˈinterested, ˈinteresting, recoˈmmend, eˈvent(s)* and *eˈxam(s)* as *kiloˈmetres, inteˈrested, inteˈresting, reˈcommend, ˈevents* and *ˈexam(s).* The effect of L1 transfer on stress placement by Polish learners of English was also observed by, among others, Barańska (2011) and Matysiak (2012).

It was also found that many of the most frequent mispronunciations in the corpus-based list are function words (*don't, their, some, also, aren't*). This observation seems hardly surprising given the fact that function words occur frequently in speech in general. Nonetheless, the finding draws attention to the fact that function words should perhaps be given higher priority[3] in English pronunciation teaching. Since they appear in speech so often, they may lead to more breakdowns in communication and cause more irritation on the part of the listener than seemingly more serious errors that crop up in the learners' speech less frequently.

Finally, it seems worth mentioning that some of the items that are high on the list of the most frequent mispronunciations in the PLEC corpus seem to be relatively rare (e.g., *volleyball, Warsaw, Czech, Polish*). Obviously, words such as *Poland, Polish* and *Warsaw,* although not necessarily very common in the English language in general, are definitely frequent in the speech of Polish learners of English. As regards words such as *volleyball* and *Czech* as well as *hobby, kilometres, chemistry* or *biology* (which are also close to the very top of the corpus-based index of pronunciation errors), they seem to appear on the list partially due to the fact that many of the participants were secondary school students interviewed about their hobbies and interests. Many subjects were also asked about their hometowns and trips abroad, which seems to explain why the list includes the words *Czech* and *kilometres*.

[3] Admittedly, when learners are mastering weak forms in English pronunciation classes, function words are the focus of much attention. At the same time, native-like pronunciation of function words which do not typically have weak forms (such as *don't, aren't, their*) may receive less attention.

3.2 Words Commonly Mispronounced Versus a Corpus-Based List

The items on the list of 50 most frequently mispronounced words in the PLEC corpus (Zając & Pęzik, 2012) are, for the most part, considerably different from the first 50 items in Words Commonly Mispronounced (Sobkowiak, 2001). The two indexes overlap only in a few instances: *their* (interestingly, it's the third item on both lists), *other, only, old* (*older* in the corpus-based list), *work, world, don't, money, half* and *front.*[4] The fact that these words have been spotted both by Sobkowiak (2001) and in the study by Zając and Pęzik (2012) implies that their pronunciation is especially difficult to master for Polish learners of English and/or that these mispronunciation are especially annoying for the listeners.

Nevertheless, the number of mispronunciations that are exclusive to only one of the lists is far greater than the number of errors which appear on both. For instance, the corpus-based list (Zając & Pęzik, 2012) includes words such as *some*, *love, aren't computer, interesting, colours, exam*(s), *develop* or *foreign*, which do not appear among the first 50 items in Words Commonly Mispronounced[5] (Sobkowiak, 2001). The first 50 items in Words Commonly Mispronounced (Sobkowiak, 2001), on the other hand, comprise items such *as said, saw, answer, heard, south, area* or *special*, which are absent from the list of 50 most frequently mispronounced words in the PLEC corpus (Zając & Pęzik, 2012).

Naturally, one needs to bear in mind that the types of errors included in the two lists are slightly different, i.e. some of the mispronunciations mentioned by Sobkowiak (2001) would be regarded as instances of regular features of a Polish accent and would consequently be excluded from the analysis in the study by Zając and Pęzik (2012). Moreover, the ordering of the words by frequency is not the same in the two lists. On the whole, however, the observations made here seem to validate the claim that adopting a corpus linguistic approach can be particularly advantageous in the examination of frequent pronunciation errors. At the same time, given the differences in data collection and the exclusion of Polish-accented errors from the study by Zając and Pęzik (2012), the similarities that can be found between the two lists do seem quite striking and intriguing,

4 Problems

Although a list of frequent mispronunciations produced with the use of corpus linguistic tools does have a number of advantages, the study by Zając and Pęzik (2012) revealed that there are also a number of problems related to the creation of

[4] Notice that, in the whole subsection, the author is comparing the first 50 words on the corpus-based index and the first 50 words on Words Commonly Mispronounced, not the complete lists.

[5] However, Words Commonly Mispronounced as a whole do contain *foreign, aren't* and *development*.

such a list and the creation of a thorough and reliable index of pronunciation errors in general. These issues include corpus representativeness, annotation format, maintaining objectivity when analysing the data, and, finally, the definition and classification of pronunciation errors.

4.1 Representativeness

As referred to in the first section of this paper, working on a representative corpus of learner speech should enable one to carry out a comprehensive analysis of pronunciation errors. However, collecting a representative database of learner speech is, in fact, not a simple task. The spoken component of the PLEC corpus seems fairly sizeable, but can it be considered representative of the spoken English of Polish learners? As explained by Biber (1993, p. 243),

> Representativeness refers to the extent to which a sample includes the full range of variability in a population. In corpus design, variability can be considered from situational and from linguistic perspectives, and both of these are important in determining representativeness. Thus a corpus design can be evaluated for the extent to which it includes: (1) the range of text types in a language, and (2) the range of linguistic distributions in a language.

The spoken component of the PLEC corpus includes only one type of linguistic text, i.e. spoken interactions between an interviewer and one or two learners. The range of linguistic distributions is also relatively limited; the conversation topics are mostly the same in all of the interviews, which resulted in the appearance of words such as *volleyball* or *hobby* at the very top of the list of the most frequent mispronunciations. All in all, although the spoken component of the PLEC corpus can definitely be of much use in the study of learner speech, working on a more diversified database should yield results that are representative of more than one type of linguistic context.

4.2 Annotation Format

In the study by Zając and Pęzik (2012), the authors decided that the mispronunciations should be transcribed with the IPA symbols used for SSBE and that if a realisation that was considered erroneous involved the use of some regular feature of a Polish accent, the segment(s) containing the Polish feature would be transcribed as if it was realized native-like (see Sect. 2.3). This annotation format was selected, because it was assumed that it would facilitate the process of transcription. It transpired later that it was, in fact, complicated and confusing. As a result, the transcriptions of the mispronunciations are sometimes inconsistent with each other and often do not reflect the actual realisations by the learners. For instance, the fact that the erroneous realisation of the word *Polish* is /ˈpɒlɪʃ/ (see Table A.1 in the

Appendix) does not mean that every subject pronounced the second vowel native-like, i.e. using the KIT vowel. Many participants realised it as a Polish /i/, but since the lack of a FLEECE-KIT contrast was considered a regular feature of a Polish accent (and was excluded from the analysis), it was not marked in the transcription. Also, if one is to follow the annotation guideline that elements in which a regular feature of a Polish accent was used should be transcribed as if they were pronounced native-like, one should transcribe [ˈdivelop], a common mispronunciation of the word *develop*, as /ˈdɪvələp/ (full vowels transcribed as schwas in accordance with the rule that vocalic elements are usually reduced in unstressed syllables in English). However, in this case, /ˈdɪvələp/is a far cry from the actual pronunciation of the word and does seem somewhat artificial. For this reason, realisations such as [ˈdivelop] were often transcribed as /ˈdɪvelɒp/. This type of transcription seems more natural, but is not in line with one of the annotation guidelines, resulting in transcription inconsistencies. The conclusion that can be drawn from these observations is that, first of all, the mispronunciation annotation format is a key element in a corpus-based examination of pronunciation errors, and, secondly, it is vitally important that the selected format is relatively simple to follow and, at the same time, reflects the actual realisations of the learners.

4.3 Objectivity

As mentioned earlier in this paper, one of the problems with lists of frequent mispronunciations that are collected from experience is the fact that seemingly prevalent errors can in fact be isolated incidents that happened to catch one's attention. Nonetheless, a similar kind of problem can arise when one is compiling a corpus-based list of mispronunciations. It was only one person that indentified the pronunciation errors in Zając and Pęzik's (2012) study, which is clearly insufficient to ensure completely objective judgements. In such a case, one cannot be absolutely certain whether the rater is not focusing on particular types of errors and overlooking others. Another factor that needs to be taken into consideration is mental fatigue (inevitable when annotating for several hours, as is usually the case), which can substantially reduce one's ability to single out pronunciation errors. In conclusion, it needs to be stressed that in order to produce a truly thorough and reliable index of the most frequent mispronunciations, several raters should be involved in the annotation process. Fortunately, with a database such as the spoken component of the PLEC corpus, a number of different people can easily listen to the same recordings. This way, the raters can check up on one another to increase objectivity and share the workload to avoid mental fatigue.

4.4 Definition and Classification of a Pronunciation Error

Some of the most interesting issues that arose during the examination of pronunciation errors in the study by Zając and Pęzik (2012) are the questions of how to definite a pronunciation error and how to classify a given mispronunciation. As referred to previously, Zając and Pęzik (2012) resolved not to concentrate on mispronunciations that are caused by regular features of a Polish accent and one of the reasons behind it was that the resulting list would likely appeal to learners who wish to improve their pronunciation but do not consider it a top priority. It was assumed, perhaps somewhat naively, that the very top of this list would comprise several serious pronunciation errors that can impede successful communication (thus rendering the list suitable and interesting for different types of learners, not limiting it to English students who are particularly interested in pronunciation). What the very top of the list actually contains are mostly mispronunciations that could possibly cause some irritation on the part of pronunciation teachers or native listeners. It is hard to imagine, however, that they would cause major breakdowns in communication. Moreover, realising words such as *love* with some sort of an/o/ seems perfectly acceptable in many regional accents of English. These observations suggest that, contrary to the authors' initial assumptions, it might prove more rewarding to take typically Polish pronunciation features into account. Indeed, the inability to differentiate between FLEECE and KIT or, for instance, a failure to maintain the voiced-voiceless contrast in English final obstruents could potentially prevent successful communication. Yet if one is to equate incorrect pronunciation with producing sounds that deviate from the native language norm, where should one stop? To what extent should the non-native realisation deviate from the native norm to be considered an error and what *is* the native language norm? The former question is especially important in the case of vowels, sounds that form a continuum with no distinct boundaries between one category and another. A given vowel category can cover a range of qualities, which, in some cases, could render it impossible to determine whether a given realisation is 'correct' or not. As regards the latter question, it can be difficult to decide whether a certain realisation is erroneous even when the native language norm is simply taken to mean standard pronunciation. For example, since the TRAP vowel can have quite distinct realisations in General American and Standard Southern British English (Lindsey, 2012), what sort of realisations of this vowel should be regarded as deviations from the norm? One might also wish to take regional accents into consideration, which could complicate matters even further.

Another problem is that erroneous realisations can often prove difficult to classify regardless of the criteria that are used to define a pronunciation error. For example, mispronunciations of words such as *told* or *old* seem to stem from a simple substitution of the LOT vowel for the GOAT vowel. Yet, words like *told* or *old* do not necessarily have to be produced with the sequence [əʊɬ]. A native speaker can also pronounce them with [ɒʊɬ] (Wells, 2008), which, in turn, is perceptually close to [ɒɬ] (the [ʊ]-type resonance of the following velarised approximant should render the

two realisations very similar). Thus, *told* and *old* produced with the LOT vowel seem like perfectly legitimate pronunciations. This signifies that the problem with native-like realisation of words such as *told* and *old* does not lie in the fact that learners are replacing GOAT with LOT, but rather in the fact that they are using the wrong allophone of /l/. Another mispronunciation that can prove fairly difficult to classify is realising *some* with an/o/-like vowel. On the one hand, it could be considered as a simple case of using the LOT vowel in place of the STRUT vowel. On the other hand, since the word *some* is usually pronounced with an unstressed, reduced vowel, one could treat the mispronunciation as an instance of a lack of vowel reduction. Erroneous realisations of words such as *certain*, *comfortable* or *determine* are similar in this respect. It is not clear whether producing a diphthong rather than a reduced vowel in the final syllable should be viewed as a problem with vowel reduction or as a result of inappropriate inference from the spelling.

Finally, it should also be mentioned that the definition of a pronunciation error employed in the study by Zając and Pęzik (2012) is not completely watertight. As mentioned earlier, the definition states that only the errors that are not caused by regular features of a Polish accent should be included in the list of mispronunciations. However, some of the most frequent pronunciation errors in the PLEC corpus, e.g. realising the < o > letter as /o/in words such as *don't, some, work, love, Polish*, could hypothetically be treated as a regular feature of a Polish accent (after all, this type of mispronunciation was very common among the subjects). The term 'regular features of a Polish accent' is clearly too broad and perhaps a better solution would be to prepare a more precise list of features that one wishes to exclude from the analysis.

5 Conclusions

The results of the study by Zając and Pęzik (2012) indicate that employing corpus linguistic tools to examine L2 pronunciation errors makes it possible to create new and improved "lists of words commonly mispronounced." A corpus-based list of frequent pronunciation errors can constitute an effective and powerful tool in pronunciation teaching and learning, especially since the researcher no longer needs to rely on anecdotal evidence in order to determine which mispronunciations are particularly common in learner speech. At the same time, one should bear in mind that compiling a corpus-based index of pronunciation errors is not without its difficulties. Before we set out to produce such a list, issues such as the definition of a pronunciation error or the representativeness of the corpus should be carefully considered.

Acknowledgments The study by Zając & Pęzik (2012) is part of a research project funded in the years 2010-2012 by a grant from the Polish Ministry of Science and Higher Education (N N104 205039).

Appendix

See Table A.1.

Table A.1 50 most frequently mispronounced words in the PLEC corpus together with sample erroneous realisations

	Word	Total no.	No. of speakers	Realisation
1	Don't	523	104	dɒnt
2	Old	113	35	ɒld
3	Their	94	26	ðeɪr, ˈðeɪʌr, ðeɪ
4	Some	138	23	sɒm
5	Work	73	22	wɔːrk, wɔːk
6	Also	80	21	ˈcːlsɒ, ˈɔːlzəʊ, ˈɔːlzɒ
7	Polish	78	21	ˈpɒlɪʃ
8	Poland	66	18	ˈpɒlənd
9	Love	68	16	lɒv
10	Something	61	16	ˈsɒmθɪŋ
11	Volleyball	50	16	ˈvɒleɪbɔːl, ˈwɒlibɔːl, ˈwɒleɪbɑːl
12	Only	55	14	ˈɒnli
13	Other	55	14	ˈɒðər, ˈɒðə
14	Front	53	13	frɒnt
15	Older	32	12	ˈɒldər
16	World	49	12	wɔːrd, wɔːrld
17	Hobby	32	11	ˈhɒbbi
18	Kilometres	32	11	kɪləˈmiːtərz, kɪləˈmiːtəz, kɪləˈmetərz
19	Aren't	32	10	ˈɑːrənt
20	Computer	49	10	ˈkɒmpjuːtə, ˈkɒmpjuːtər
21	Interested	33	10	ɪnˈtrestɪd, ɪntəˈrestɪd
22	London	25	9	ˈlɒndən
23	Warsaw	30	9	ˈwɔːrsəʊ, ˈwɜːrsəʊ
24	Chemistry	38	8	ˈhemɪstri, ˈʧemɪstri
25	Interesting	23	8	ɪnˈtrestɪŋ, ɪntəˈrestɪŋ
26	Abroad	16	7	əˈbrəʊd
27	Biology	18	7	ˈbjɒlədʒi, baɪəˈlɒdʒi
28	Czech	18	7	ʧeh
29	Recommend	29	7	rəˈkɒmend, ˈrekəmend

(continued)

Table A.1 (continued)

	Word	Total no.	No. of speakers	Realisation
30	Most	14	6	mɒst
31	Singing	40	6	ˈsɪŋɪŋg, ˈsɪŋgɪŋg
32	Told	14	6	tɒld
33	Colours	16	5	ˈkɒlərz
34	Company	22	5	ˈkɒmpəni, kɒmˈpæni
35	Develop	17	5	ˈdɪvelɒp
36	Education	17	5	eduˈkeɪʃn
37	Exam	20	5	ˈegzæm
38	Exams	20	5	ˈegzæmz
39	Fantasy	12	5	fənˈtæzi
40	Photos	25	5	ˈfəʊtɒz, ˈfɒtɒz
41	Whole	22	5	hɒl
42	Words	13	5	wɔːrdz
43	Guitar	14	5	ˈgɪtɑː, ˈgɪtɑːr
44	Event	12	4	ˈiːvənt
45	Events	15	4	ˈiːvənts
46	Foreign	11	4	fəˈreɪn, ˈfɔːreɪn
47	Half	9	4	hɑːlf
48	Languages	13	4	ˈlæŋgwɪʃɪz
49	Moment	11	4	ˈmɒmənt
50	Money	10	4	ˈmɒneɪ,ˈmʌneɪ

References

Archibald, J. (1997). The acquisition of English stress by speakers of nonaccentual languages: lexical storage versus computation of stress. *Linguistics, 35,* 167-181.

Barańska, A. (2011). The examination of the vowel length in the pronunciation of the English adjectives with -able, -ate, -ative suffixes. *Gavagai Journal, 1*, 3-16.

Biber, D. (1993). Representativeness in corpus design. *Literary and Linguistic Computing, 8,* 243-257.

Davies, M. (2008). The Corpus of Contemporary American English: 450 million words, 1990-present. http://corpus.byu.edu/coca/. Accessed 28 April 2014.

Lindsey, G. (2012). The British English vowel system. Speech Talk. Thoughts on English, speech & language. http://englishspeechservices.com/blog/british-vowels. Accessed 28 April 2014.

Matysiak, A. (2012). Is English word stress beyond the scope of Polish advanced learners of English? – different strategies of indicating the stress position within multi-syllable words. *Gavagai Journal, 2,* 22-33.

Piske, T., Flege, J. E., MacKay, I., & Meador, D. (2002). The Production of English Vowels by Early and Late Italian-English Bilinguals. *Phonetica, 59,* 49-71.

Sobkowiak, W. (2001). *English phonetics for Poles*. (2nd ed.) Poznań: Wydawnictwo Poznańskie.

Sloetjes, H., & Wittenburg, P. (2008). Annotation by category - ELAN and ISO DCR. *Proceedings of the 6th International Conference on Language Resources and Evaluation* (LREC 2008).

Szpyra-Kozłowska, J., & Stasiak, S. (2010). From focus on sounds to focus on words in English pronunciation instruction. *Research in Language, 8,* 1-12,

The British National Corpus, version 3 (BNC XML Edition) (2007). Distributed by Oxford University Computing Services on behalf of the BNC Consortium. http://www.natcorp.ox.ac.uk/. Accessed 28 April 2014.

Waniek-Klimczak, E. (2002). How to predict the unpredictable – English word stress from a Polish perspective. In E. Waniek-Klimczak, & P. J. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology* (pp. 221-242). Berlin: Peter Lang.

Wells, J. C. (2005). Goals in teaching English pronunciation. In K. Dziubalska-Kołaczyk, & J. Przedlacka (Eds.), *English pronunciation models: A changing scene* (pp. 101-112). Bern: Peter Lang.

Wells, J. C. (2008). *Longman Pronunciation Dictionary*. Harlow: Pearson Education Limited.

Zając, M., & Pęzik, P. (2012). Developing a corpus-based index of commonly mispronounced words. Paper presented at *Accents 2012 - VIth International Conference on Native and Non-native Accents of English*, Łódź, Poland, 6-8 December, 2012.

Handling Global and Local English Pronunciation Errors

Andrzej Porzuczek

Abstract This paper discusses the issue of global and local errors in EFL pronunciation of Polish learners. It is argued that in school conditions explicit instruction and drawing the learner's attention to language patterns can save time and enhance progress. Since presenting patterns and rules can help the students handle the problems with global errors but not with local ones, it is worthwhile looking for patterns among the phenomena which are seemingly erratic and unpredictable. Classroom practice tells us that certain kinds of errors reappear, which makes it possible for the teacher to formulate useful hints for the students and even prevent many word-specific, local errors. In the main part of the paper, a list of frequent Polglish pronunciation mistakes (Sobkowiak, 2001) is used to elaborate a set of practical tips for Polish learners of English. The tips refer to English phonotactics and spelling-phonology relations.

Abbreviations

/C/	a consonant
/V/	a vowel
<C>	a consonant letter other than <r>
<V>	a vowel letter
<-C>	a word final consonant letter other than <r>
<C->	a word initial consonant letter
<x> → /y/	letter ‘x’ represents sound ‘y’
<x> ≠ /y/	letter ‘x’ does not represent sound ‘y’
(N), (V), (A)	noun, verb, adjective (respectively)

A. Porzuczek (✉)
University of Silesia, Katowice, Poland
e-mail: andrzej.porzuczek@us.edu.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_10

1 Introduction

Foreign language (FL) learning differs considerably from natural L1 or L2 acquisition. Because of limited input and communication opportunities, the teacher is forced to resort to the deductive approach and refer to patterns or rules in order to save some of the time the learner would need to spend grasping the system in an inductive way. Prior learner experience, comprising L1 and other languages, including the current stage of FL development, is used to formulate hypotheses and generalisations on which to base language performance. Errors resulting from insufficient knowledge and interference are an inevitable aspect of learning at all levels of language structure, including pronunciation. Literature distinguishes global and local errors as two important types.

2 Global and Local Errors

In language acquisition studies and glottodidactics the distinction between global and local errors lacks a uniform definition. Introduced by Burt & Kiparsky (1972, 1974), it refers to the scope of an error. If the overall sentence structure is affected, a global error has been made, while local errors only violate rules operating within individual sentence constituents. It is further claimed (e.g., Burt, 1975) that while global errors seriously hinder communication and they prevent the learner from understanding at least some important parts of the message, local errors do not cause communication failures.

Pronunciation learning studies also make use of the two terms, but they naturally refer to a different distinction. According to Szpyra-Kozłowska (2011, p. 287), "[g]lobal errors typically involve the replacement of foreign sounds with what is felt by the learners to be their closest equivalents." Local errors, on the other hand, result from "phonologically deviant representations of words stored in learners' memory (ibid., p. 286)."

Sobkowiak (2001, p. 24) points out the idiosyncratic character of local errors, in contrast to rule-governed (i.e. usually caused by interlingual or intralingal interference) global ones. The latter thus appear on a large scale and "give foreign speech the easily noticeable 'accent'." This property, on the other hand, makes them 'most easily noticed and remedied' (2001, p. 23). Consequently, Sobkowiak's handbook focuses on global errors, which affect a large number of lexical items and can be handled more efficiently.

Szpyra-Kozłowska (2012, p. 243), however, observes that "frequent occurrence of the so-called local errors" is a "striking feature of foreign-accented English." She further argues that "the use of such items is more detrimental to successful communication via English than inaccurately produced segments and suprasegmentals." Empirical evidence for the destructive impact of local mistakes on communication is presented in Szpyra-Kozłowska and Stasiak (2010) and Szpyra-Kozłowska (2011, 2013).

The apparent discrepancy between Sobkowiak's and Szpyra-Kozłowska's approaches may lie in the fact that, considering the existing definitions, it is not always easy to establish the category of a pronunciation error.[1] The problem is described by Szpyra-Kozłowska (2013, p. 17) as follows:

> The distinction between global and local errors is not always sharp. It is not clear, for instance, how to classify the overgeneralization that the <ate> sequence is often interpreted as [eit] in nouns, such as *certificate*, *climate* or *palate*. Such errors are local in the sense that they concern a particular sequence of letters, but are not restricted to a single item.

Despite its main focus on global errors, Sobkowiak's handbook does not neglect local errors either. It includes (2001, pp. 351–357) an extensive list of over 600 English 'words commonly mispronounced', which are arranged according to their frequency of occurrence. Some of the examples are typical local errors, while others are problematic in that they form patterns, similar to the above Szpyra-Kozłowska's example. Thus the list provides interesting material to be discussed in order to work out effective ways of teaching English pronunciation.

3 Are Systematic Approaches to Local Errors Possible?

The views presented by Sobkowiak and Szpyra-Kozłowska are not contradictory. It is true that if global errors are systematic, then they are practically ubiquitous, but for the same reason they can be remedied more easily than the local ones, especially in EFL teaching conditions. It cannot be denied either that since local errors are idiosyncratic, they pose a serious threat to communication, especially, as argued by Szpyra-Kozłowska, if they appear in large numbers, which is often the case in typical Polglish pronunciation.

The problems of EFL teaching mentioned in the introduction, especially the time limits, force the teacher to look for most efficient approaches and techniques. It seems reasonable then to handle the global errors but also try to make the problematic ones as 'global' as possible. A lot of pronunciation tendencies or rules capture instances which are handled by teachers as individual, isolated cases or exceptions. This is justified if the teacher decides that an attempt to generalise a problem will not solve it.

In the next section of this paper we try to analyse a major part of Sobkowiak's list (the most frequent words) in order to find the regularities which are worth teachers' and learners' attention because they concern numerous lexical items and leave relatively few exceptions. Sobkowiak (2001, pp. 24–26) considers interference as

[1] The same problem appears on the utterance level with respect to Burt and Kiparsky's (1972, 1974) classification. Numerous examples can be found where it is hard to decide if certain syntactic deviations (e.g., erroneous word order) affect the whole sentence or just one constituent, regardless of their influence on communication efficiency, not to mention obvious local errors (e.g., wrong lexical choices) that make whole sentences unintelligible.

the main source of pronunciation competence errors and distinguishes foreign and native language interference errors, related to both spelling and sound. We assume that the main reason for EFL pronunciation errors enumerated in *English Phonetics for Poles* is the ambiguity of English spelling. The wrong pronunciation mainly results from either applying L1 spelling-to-sound rules or the overgeneralisation of FL rules. Global errors as defined by Szpyra-Kozłowska, i.e. those consisting in regular substitution of Polish speech sounds for English ones are not regarded in this part of the paper. In fact, it would be difficult even to identify them in phonemically transcribed written data.

4 Globalising Local Errors

The analysis comprises top 373 'words commonly mispronounced' listed by Sobkowiak. The following classification groups words according to the reported types of mistakes appearing in their Polglish pronunciation. The first class (4.1) comprises true local errors, i.e. those which can hardly be prevented by observing the graphophonemic or phonotactic rules of English. Those words are mostly 'graphophonemic exceptions', where following a well-established pronunciation pattern results in an error. The next group (4.2) contains words which are mispronounced if a student chooses the wrong one of two equally plausible pronunciation options. Finally, the third group (4.3) gathers errors which can easily be avoided if typical spelling cues are taken into account. Most of these errors are caused either by L1 interference or the learners' failure to follow the most characteristic pronunciation patterns and their consequent random phonological choices. Apart from this general division, inevitably subjective and controversial in some cases, the proportions of particular types of errors will be established in order to suggest which deserve the teacher's effort to eliminate them by means of explicit general instruction.

5 True (Unavoidable) Local Errors

Table 1 contains 62 lexical items with true local pronunciation errors. Even if any patterns could be observed, it seems more advisable for the learner to treat the words as exceptions and memorise them. Most of the errors result from correct observations of English spelling-to-sound rules which, although otherwise quite reliable, for various reasons do not apply to these particular lexical items. Some errors (bold) do not follow English graphophonemic patterns but their correct pronunciation is not predictable anyway. The words *bull* and *height* could also be placed in 4.2 but being single cases representing a spelling pattern among the analysed 'words commonly mispronounced,' they should be taught as exceptional items.

Table 2 presents words where the wrong stress placement aggravates pronunciation mistakes. These errors are also difficult to prevent.

Table 1 Words with unpredictable pronunciation (62 items)

word	error	word	error
abroad	/əˈbrəʊd/	key	/keɪ/
Albert	**/ˈɒlbɜːt/**	knowledge	/ˈnəʊlɪdʒ/
alphabet	**/ˈɒlfbɪt/**	leisure	/ˈleɪʒə/
answer	/ˈɑːnswə/	lettuce	/ˈletjʊs/
any	/ˈæni/	lieutenant	/ˈlɔɪtənənt/[a]
aren't	**/ˈɑːrənt/**	many	/mæni/
aunt	**/aʊnt/**	marine	/məˈrain/
bass	/bæs/	minute	/ˈmɪnɪt/
blood	/blʊd/	only	/ˈɒnli/
broad	/brəʊd/	opposite	/ˈɒpəzaɪt/
bull	/bʌl/	protein	/prəˈteɪn/
bury	/ˈbɜːri/	record	/ˈrekəd/
canoe	/kəˈnəʊ/	said	/seɪd/
circuit	/ˈsɜːkwɪt/	salmon	/ˈsælmən/
clerk	/klɜːk/	says	/seɪz/
colonel	/ˈkɒlənəl/	scarce	/skɑːs/
conquer	/ˈkɒŋkwə/	**sergeant**	**?/ˈsɜˈdʒənt/**
corps	/kɔːps/	sew	/sjuː/
country	/ˈkaʊntri/	shepherd	/ˈʃefəd/
don't	/dɒnt/	shoe	/ʃəʊ/
failure	/ˈfeɪlə/	southern	/ˈsaʊðən/
flood	/flʊd/	Stephen	/ˈstefən/
fruit	/fruɪt/	sword	/swɔːd/
gauge	/gɔːdʒ/	**their**	**/ðeɪ/**
Graham	/ˈgræhəm/	Thomas	/ˈθɒməs/
height	/heɪt/	tongue	/ˈtʌŋgjuː/
honour	/ˈhɒnə/	water	/ˈwɒtə/
houses	/ˈhaʊsɪz/	**Wednesday**	**/ˈwendzdeɪ/**
iron	/ˈaɪrən/	**weren't**	**/ˈwɜːrənt/**
island	/ˈaɪsləndˈ/	women	/ˈwɒmən/
journey	/ˈdʒɔːneɪ/	won't	/wɒnt/

[a] Szpyra-Kozłowska (2013, p. 20) regards this pronunciation as transfer from German

Except in the final syllables of *develop* and *interpret*, the errors do not break the English spelling-to-sound rules so again they have been caused by FL rather than L1 interference.

Table 3 shows words spelt with the final <ough> sequence, notorious for its unpredictability. The students should be advised to always make sure what the correct pronunciation of such a word is. Unless pointed out by the teacher, it takes learners a long time to notice the variety of <-ough> pronunciations on the one hand, and the high predictability of the correct pronunciation of words with <-aught> and <-ought> (see Table 18).

Table 2 Unpredictable word stress (46 items)

word	error
advice	/ˈædvaɪs/
Alice	/əˈliːs/
area	/əˈrɪə/
arithmetic	/ærɪθˈmetɪk/
ceremony	/səˈremәni/
comfortable	/kəmˈfɔːtəbəl/
commerce	/kəˈmɜːs/
committee	/ˈkɒmɪtiː/
cylinder	/sɪˈlɪndə/
develop	/ˈdevələʊp/
development	/devəˈlɒpmənt/
diagonal	/daɪəˈgəʊnəl/
distinct	/ˈdɪstɪŋkt/
economic	/ɪˈkɒnəmɪk/
educated	/edjʊˈkeɪtɪd/
efficient	/ˈefɪʃənt/
effort	/əˈfɔːt/
energy	/eˈnɜːdʒi/
entrance	/ənˈtrɑːns/
event	/ˈiːvənt/
female	/fiːˈmeɪl/
foreign	/fɒˈreɪn/
garage	/gəˈreɪdʒ/
geometry	/ˈdʒɪəmətri/
guitar	/ˈgiːtə/
image	/ɪˈmeɪdʒ/
industry	/ɪnˈdʌstri/
insurance	/ˈɪnʃərəns/
interpret	/ɪntəˈpriːt/
Japan	/ˈdʒæpən/
message	/məˈseɪdʒ/
necessary	/nəˈsesəri/
palace	/pəˈleɪs/
papa	/ˈpɑːpə/
patrol	/ˈpatrəl/
process	/prəʊˈses/
professor	/ˈprɒfəsə/
purchase	/pəˈtʃeɪs/
success	/ˈsʌksəs/
superior	/ˈsʌpɪərɪə/
territory	/təˈrɪtəri/
therefore	/ðəˈfɔː/
determine	/ˈdetəmaɪn/
intestine	/ˈɪntəstaɪn/
examine	/ˈegzəmaɪn/
obtain	?/ˈəpteɪn/

Table 3 Unpredictable <-ough> (4 items)

word	error
dough	/daʊ/
rough	/rəʊf/
through	/θrəʊ/
tough	/təʊ/

Table 4, comprising as many as 39 items, is devoted to a single letter. The letter <o> has proved to be so tricky for the learners that it has found itself an important place in this section. Not only must we enumerate 3 main pronunciation options, i.e. /əʊ/, /ɒ/ and /ʌ/ plus two less frequent ones: /uː/ and /ʊ/ but also the mute <e> following syllables spelt with an <o> seems less reliable as a 'long' pronunciation indicator.

Tables 1, 2, 3, 4 include the relatively frequent English words which should be introduced by the teacher with explicit phonetic instruction focused on a given lexical item. Considering their spelling, it is most difficult to predict the phonological value of the letter <o>, the <-ough> combination, and lexical stress. There are 150 listed erroneous word forms altogether which cannot be prevented by general instruction. This constitutes approximately 40 % of the analysed difficult words. The remaining 60 %, discussed in 4.2 and 4.3, are less error-prone.

6 'Either-Or' Local Errors

The words gathered in this section are similar in that their spelling where the error occurs suggests two equally plausible phonological shapes. It is worth drawing the learners' attention to such patterns because even if the wrong choice is made by the learner within the typical patterns, the listener is still likely to recognise the word.

The errors shown in Table 5 are connected with the fact that each vowel letter has a typical 'long'[2] and a typical 'short' realisation. Recognising this seemingly obvious feature of English orthoepy should help learners considerably reduce the number of pronunciation errors, especially if they pay attention to the cues given by the context. Which variant appears in a given word is often clearly indicated by the letters following the vowel symbol. A double consonant letter or a word final single consonant letter are strong indications of a preceding 'short' pronunciation variant, while <-Ce> is a slightly weaker suggestion that the 'long' variant should be used. The most problematic contexts include a single consonant letter or a combination of two consonant letters one of which represents a sonorant (e.g., <n>, <r>, <l>) wherever followed by another vowel, especially if that is still not word final. In the case of <-nd>, <-ld>, or even <-nt>, the realisation of a preceding <i> is also unpredictable.

[2] Typically the closing diphthong that is used to name the vowel letter (cf. Porzuczek et al., 2013, p. 40).

Table 4 <o> → /ɒ/ - /ʌ/ - /əʊ/ - (/uː/) - (/ʊ/) (39 items)

word	error
above	/əˈbəʊv/
among	/əˈmɒŋ/
body	/ˈbəʊdi/
brother	/ˈbrɒðə/
comfort	/ˈkɒmfət/
company	/ˈkɒmpəni/
compass	/ˈkɒmpæs/
control	/kənˈtrɒl/
cover	/ˈkəʊvə/
donkey	/ˈdʌŋki/
dozen	/ˈdəʊzən/
front	/frɒnt/
gone	/gʌn/
holy	/ˈhɒli/
honest	/ˈəʊnəst//ˈhɒnəst/
lose	/ləʊz/
model	/ˈməʊdəl/
motor	/ˈmɒtə/
novel	/ˈnəʊvəl/
opera	/ˈəʊpərə/
other	/ˈɒðə/
oven	/ˈɒvən/
pony	/ˈpɒni/
poverty	/ˈpʌvəti/
prove	/prəʊv/
robot	/ˈrɒbɒt/
rocket	/ˈrækɪt/
shone	/ʃəʊn/
shovel	/ˈʃɒvəl/
solar	/ˈsɒlə/
solo	/ˈsɒləʊ/
sponge	/spɒndʒ/
stomach	/ˈstɒmək/
wolf	/wɒlf/
woman	/ˈwɒmən/
won	/wɒn/
wonder	/ˈwɒndə/
worry	/ˈwɒri/

Table 5 Unpredictable pronunciation of single vowel letters (31 items)

word	error	pattern
Abraham	/ˈæbrəhæm/	<a> → /eɪ/ - /æ/
ancient	/ˈænʃənt/	
angel	/ˈændʒəl/	
April	/ˈæprɪl/	
atom	/ˈeɪtəm/	
basis	/ˈbæsɪs/	
cabin	/ˈkeɪbɪn/	
caterpillar	/ˈkeɪtəpɪlə/	
chamber	/ˈtʃæmbə/	
dangerous	/ˈdendʒərəs/	
favourite	/ˈfævərɪt/	
gravel	/ˈgreɪvəl/	
gravity	/ˈgreɪvɪti/	
international	/ɪntəˈneɪʃənəl/	
national	/ˈneɪʃənəl/	
natural	/ˈneɪtʃərəl/	
ratio	/ˈræʃjəʊ/	
rational	/ˈreɪʃənəl/	
volcano	/vɒlˈkɑːnəʊ/	
frequent	/ˈfrekwənt/	<e> → /iː/ - /e/
medium	/ˈmedɪəm/	
recently	/ˈresəntli/	
serious	/ˈsɪərjəs/	
driven	/ˈdraɪvən/	<i>/<y> → /aɪ/ - /ɪ/
live (A)	/lɪv/	
nylon	/ˈnɪlən/	
pint	/pɪnt/	
wilderness	/ˈwaɪldənəs/	
hind	/hɪnd/	
wind (V)	/wɪnd/	
bugle	/ˈbʌgəl/	<u> → /(j)uː/ - /ʌ/[a]

[a] The 'short' pronunciation of <u> is also realised by /ʊ/ (e.g., *bull*), which makes the letter more problematic but still not as much as <o>

The complexity of English vocalic system requires a number of vowel letter combinations to represent both single vowels and diphthongs. Most of these combinations are also ambiguous but they rarely give the reader more than two options. Tables 6, 7, 8, 9, 10 show the typical realisations of the vocalic digraphs which are found most frequently in 'words commonly mispronounced.'

Tables 6 and 7 present words with <ea> and <ow>, which rather ambiguously suggest the correct pronunciation of a word. The next two combinations, <ou> and <au> are also problematic but it may prove helpful to know that the typical realisations are /aʊ/ and /ɔ:/, respectively, while /əʊ/, the most frequent mistake in both

Table 6 <ea> → /i:/ - /e/ - (/eɪ/) (17 items)

word	error
breath	/bri:ð/
breathe	/breθ/
dead	/di:d/
deaf	/di:f/
feather	/ˈfi:ðə/
health	/hi:lθ/
instead	/ɪnˈsti:d/
lead (N)	/li:d/
lead (V)	/led/
meadow	/ˈmi:dəʊ/
peasant	/ˈpi:zənt/
spread	/spri:d/
steady	/ˈsti:di/
sweat	/swi:t/
sweater	/ˈswi:tə/
threat	/θri:t/
wealth	/wi:lθ/

Table 7 <ow> → /aʊ/ - /əʊ/ (11 items)

word	error
bow	/bəʊ/↔ /baʊ/
bowl	/baʊl/
cow	/kəʊ/
crowd	/krəʊd/
glow	/glaʊ/
known	/naʊn/
lower	/laʊə/
owl	/əʊl/
own	/aʊn/
power	/ˈpəʊə/
row	/rəʊ/

Table 8 <ou> → /aʊ/ - (/uː/) – (/ʌ/). <ou> ≠ /əʊ/ (13 items)

word	error
group	/grəʊp/
loud	/ləʊd/
mouth	/məʊθ/
outside	/ˈəʊtsaɪd/
proud	/prəʊd/
route	/rəʊt/
shout	/ʃəʊt/
soup	/səʊp/
south	/səʊθ/
stout	/stəʊt/
wound	/wuːnd/
wound	/waʊnd/
youth	/jəʊθ/

Table 9 <au> → /ɔː/ - (/ɒ/). <au> ≠ /əʊ/, /aʊ/ (6 items)

word	error
author	/ˈəʊθə/
automobile	/ˈəʊtəməbaɪl/
autumn	/ˈəʊtəm/
cause	/kəʊz/
fault	/fəʊlt/
because	/bɪˈkəʊz/

Table 10 <ear> → /ɪə/ - /eə/ (4 items)

word	error
ear	/eə/
near	/neə/
tear	/teə/
weary	/ˈweəri/

cases, is never represented by <au> or <ou>, except a few words with <oul> in spelling.

Unlike the errors shown in the previous tables, the ones in Tables 8 and 9 result from interlingual rather than intralingual interference. The influence of L1 graphophonemics is evident in words with <ou>. The same realisation of words with <au>, however, may be the final result of the learners' auditory experience and spelling suggestions. In other words, by adding a glide, seemingly justified by digraphic spelling, the learner compensates for extra vowel length, difficult for Polish learners.

The occurrence of <r> following a vowel letter radically changes the suggested pronunciation. <ar> and <or>, unless preceded by <w>, are relatively learner-

friendly. <wor>, <war> actually cause more problems than they should but, together with <ir>, <er> and <ur>, they are discussed among relatively reliable letter combinations (Table 17).

A combination of two vowel letters and <r> is characteristic of centring diphthongs. Four errors involving <ear> appear on the list. Because two typical realisations correspond with this spelling, these words are introduced in the present section. Interestingly, all incorrect forms contain /eə/ instead of /ɪə/, which may suggest the influence of Polish graphophonemics.

The relations between consonant letters and the sounds they represent are far more regular and thus less problematic, but still a number of problems appear. The main issue is to establish the phonological phonation variant in obstruents. Most oppositions are indicated in spelling, but <s>, <th> and <x> represent both the voiced and the voiceless variants. The learners might find it useful to know that:

- word initial <th> tends to be voiced in function words (except *through*[3]) and voiceless in content words;
- word final <s> and <se> tend to stand for /z/ in function words (except *this* and *us*, although the latter appears in two versions);
- <-s> indicating an inflectional ending is subject to progressive voicing (cf. Sobkowiak, 2001, pp. 66–67);
- <ss> stands for /s/ except in *scissors*, *dissolve*, *dessert*, *possess* (Sobkowiak, 2001, p. 76);
- <x> → /gz/ if the following vowel is stressed and before <h>, which is silent; <x> → /ks/ if the preceding vowel is stressed and before <c> (Sobkowiak, 2001, p. 78).

These rules do not prevent the errors shown in Table 11 but, interestingly, they allow us to put all the examples with <th> and <x> in Table 25, among avoidable error instances.

A number of consonant letters and combinations may stand for at least two different sounds, e.g. <c>, <ch> and <g>. The analysed examples (Table 12) only include errors concerning <g>. The context is indeed problematic if <g> is followed by a letter traditionally indicating a front vowel (<e>, <i> or <y>). Otherwise, <g> → /g/.

The examples which appear in this section are also difficult to eradicate but just a few practical hints can narrow down the range of possible errors. The ninety-three items constitute 25 % of the analysed material.

[3] But <th-> is never voiced before <r> (Sobkowiak, 2001, p. 72).

Table 11 Problems with voicing (8 items)

word	error
basic	/ˈbeɪzɪk/
close (V)	/kləʊs/
dissolve	/dɪˈsɒlv/
ease	/i:s/
goose	/gu:z/
increase	/ɪnˈkri:z/
lens	/lens/
loose	/lu:z/

Table 12 <g> → /g/ - /dʒ/ before <e>, <i>, <y> (3 items)

word	error
gear	/dʒɪə/
legend	/ˈlegənd/
target	/ˈtɑ:dʒət/

7 Avoidable (Globalised) Errors

The graphophonemic rules which govern the pronunciation of words gathered in this section comprise a lot of 'words commonly mispronounced.' Even though the knowledge of these rules does not guarantee 100 % success, it does guarantee a radical reduction of the number of phonological errors, especially if the introduction of a principle is accompanied by a presentation of the most frequent exceptions.

As mentioned before, stress assignment is largely unpredictable in English. However, if the learner makes the correct choice, they should consider reducing the unstressed syllables. Tables 13, 14, 15 and 16 show words with characteristic reduction patterns and the errors that appear where the learners fail to follow those patterns. Most of the instructions added to Tables 14, 15 and 16 are redundant as they are entailed in the general principle under Table 13.

Table 13 Reduce the vowel in stress-adjacent syllables and in syllables following the stressed one to /ə/ or /ɪ/ (10 items)

word	error
surface	/ˈsɜ:feɪs/
require	/reˈkwaɪə/
certain	/ˈsɜ:teɪn/
mountain	/ˈmaʊnteɪn/
suppose	/sʌˈpəʊz/
captain	/ˈkæpteɪn/
million	/ˈmɪljɒn/
orange	/ˈɒreɪndʒ/
supply	/sʌˈplaɪ/
difficult	/ˈdɪfɪkʌlt/

Table 14 Reduce <-ous>, <-age>, and <-ate> in nouns and adjectives (18 items)

word	error
curious	/ˈkjʊrjəʊs/
enormous	/ɪˈnɔːməʊs/
precious	/ˈpreʃjəʊs/[a]
advantage	/ədˈvɑːntɪdʒ/
average	/ˈævərɪdʒ/
cabbage	/ˈkæbɪdʒ/
courage	/ˈkʌrɪdʒ/
damage	/ˈdæmɪdʒ/
passage	/ˈpæsɪdʒ/
village	/ˈvɪlɪdʒ/
accurate	/ˈækjʊrɪt/
chocolate	/ˈtʃɒklɪt/
climate	/ˈklaɪmɪt/
delicate	/ˈdelɪkɪt/
predicate	/ˈpredɪkɪt/
private	/ˈpraɪvɪt/
senate	/ˈsenɪt/
separate (A)	/ˈsepərɪt/

[a] Do not pronounce /j/ after /r/, /(t)ʃ/ and /(d)ʒ/, i.e. all postalveolar consonants

Table 15 Never stress the adjectival *–able/-ible* suffix. Reduce it to /-əbl/ instead (5 items)

word	error
available	/əveɪˈleɪbəl/
capable	/kəˈpeɪbəl/
possible	/pɒˈsɪbəl/
suitable	/ˈsjuːtɪbəl/
vegetable	/ˈvedʒətɪbəl/

Table 16 If unstressed, <-er>, <-o(u)r> → /ə/; <-ey> → /ɪ/ (4 items)

word	error
neighbour	/ˈneɪbəʊ/
honey	/ˈhʌnɪ/
monkey	/ˈmʌŋkɪ/
money	/ˈmʌnɪ/

Tables 13, 14, 15 and 16, referring to the reduction of unstressed syllables, comprise 37 items. That means 10 % of the 373 most frequent Polglish errors can be eliminated if the learners follow the above simple reduction patterns.

There are also a number of highly reliable spelling representations of vocalic phonemes. These should be presented to the students together with possible exceptions. Therefore all the errors shown in Tables 17, 18, 19, 20, 21, 22, 23 and 24 can easily be avoided.

Table 17 Stressed preconsonantal or word-final <wor>, <ur>, <ir>, <er> → /ɜ:/<earC> → /ɜ:/ if C is not an inflectional ending (but *beard*) (19 items)

word	error
word	/ˈwɔ:d/
work	/wɔ:k/
world	/wɔ:ld/
worse	/wɔ:s/
worst	/wɔ:st/
worth	/wɔ:θ/
burn	/bʌrn/
burst	/bʌrst/
further	/ˈfʌrðə/
hurt	/hʌrt/
nurse	/nʌrs/
occur	/əˈkjʊə/
purple	/ˈpʌrpəl/
turkey	/ˈtʌrkeɪ/
turn	/tʌrn/
Turner	/ˈtɑ:nə/
urban	/ˈʌrbən/
early	/ˈi:rli/
heard	/hɪəd/

Table 18 <-ought>, <-aught> → /ɔ:t/ (but *drought*) (4 items)

word	error
brought	/brəʊt/
ought	/əʊt/
taught	/tɑ:f/
thought	/θəʊt/

Table 19 <aw> → /ɔ:/ (6 items)

word	error
awful	/ˈəʊfʊl/
draw	/drəʊ/
hawk	/həʊk/
law	/ləʊ/
lawn	/ləʊn/
saw	/səʊ/

Table 20 <air> → /eə/ (2 items)

word	error
aircraft	/ˈeɪkrɑ:ft/
chair	/tʃɜ:/

Table 21 <-aiC>, <-ay> → /eɪ/ (2 items)

word	error
layer	/ˈlaɪə/
remain	/rɪˈmaɪn/

Table 22 <-old> → /əʊld/; <oll> → /əʊl/ (but *doll*) (4 items)

word	error
cold	/kɒld/
old	/ɒld/
soldier	/ˈsɒldʒə/
roll	/rɒl/

Table 23 <(s)waC-> → /(s)wɒC/; <(s)quaC-> → /(s)kwɒC/; <war(C)> → /wɔː(C)/ (6 items)

word	error
wax	/wɒks/
waggon	/ˈwɒgən/
swan	/swan/
wander	/ˈwʌndə/[a]
quantity	/ˈkwɑːntɪti/
ward	/wɑːd/

[a] <a> ≠ /ʌ/!

Table 24 <i> ≠ /iː/ (5 items)

word	error
picture	/ˈpiːktʃə/
city	/ˈsiːti/
pitch	/piːtʃ/
which	/wiːtʃ/
opinion	/əˈpiːnjən/

<aw> is probably the most reliable representation of /ɔː/ (cf. Table 19) as long as the two letters do not meet across a syllable/morpheme boundary, e.g. *awry*, *away*, etc. Another complex but reliable spelling is <air>, which regularly represents /eə/ (Table 20). <–are> could also be mentioned here but no errors involving this spelling have been found in the data.

Apart from a few exceptions, the combinations <ai> (usually before consonants) and <ay> (preferred word-finally) stand for the diphthong /eɪ/ (Table 21).

There are contexts where even the realisation of <o> is easily predictable (Table 22).

As mentioned earlier, prevocalic /w/ (spelt as <w(h)> or <qu>) forms characteristic combinations with the following <a> (Table 23). If a velar consonant follows, the front vowel /æ/ is pronounced. Otherwise, /ɒ/ occurs after /w/. Finally, the back rounded vowel /ɔː/ is pronounced if <-r(C)> appears. On the one hand, letter

Table 25 Predictable consonant voicing (6 items)

word	error
pressure	/ˈpreʒə/
means	/miːns/
whose	/huːs/
though	/θəʊ/
exercise	/ˈegzəsaɪz/
exhibit	/eksˈhibit/

combinations <ar> and <or>, if preceded by <w>, no longer tend to signify /ɑː/ and /ɔː/, but on the other, the influence of <w> is relatively predictable in both cases.

It is untypical of <i> to represent /iː/. Depending on the context, one should rather expect /ɪ/ or /aɪ/ (cf. Table 5). Exceptions belonging to basic English vocabulary, such as *police* or *machine* have not been found in the present data. The pronunciation examples displayed in Table 24 appear to be global pronunciation errors as defined by Szpyra-Kozłowska (see Sect. 2).

Table 26 Mute consonant letters (21 items)

word	error	pattern
bomb	/bɔmb/	<b> is mute in <bt> and <mb>
climb	/klaɪmb/	
comb	/kɒmb/	
doubt	/daʊpt/	
lamb	/læmb/	
thumb	/θʌmb/	
column	/ˈkɒləmn/	<m> is mute in <mn>
hymn	/hɪmn/	
solemn	/ˈsɒləmn/	
castle	/ˈkɑːstəl/	<t> and <d> are mute between consonant letters
handsome	/ˈhændsəm/	
handkerchief	/ˈhændkətʃiːf/	
muscle	/ˈmʌskəl/	
talk	/tɒlk/	<-alk> → /ɔːk/
walk	/wɒlk/	
chalk	/tʃɔːlk/	
calf	/kɑːlf/	<-alm>, <-alf> → /ɑːm/, /ɑːf/
calm	/kɑːlm/	
half	/hɑːlf/	
palm	/pɑːlm/	
folk	/fɒlk/	<-olk> → /əʊk>

If the rules listed before Table 11 are applied, they can prevent errors in Table 25, almost half of the 14 incorrect voicing instances in the data.

Although it is not always the case even in L1 reality, we tend to think that any consonant letter or a digraph must be rendered in Polish pronunciation. In effect, L1 interference is visible in the errors presented in Table 26. To eliminate these errors it is enough to remember a few general rules.

The last Table (27) shows isolated errors which can be avoided if general spelling-to-sound rules are observed, even though the actual pronunciation is not always predictable. The hints for the learner are provided next to the transcription.

Errors presented in Sect. 4.3 can be avoided if the learners observe typical English graphophonemic principles. The ones that can help the learners eliminate the largest number of common errors refer to the reduction of unstressed syllables (Tables 13, 14—10 %), 'silent' consonant letters (Table 26—6 %), spellings representing /ɜ:/ (Table 17—5 %) and other vocalic phonemes (Tables 18, 19, 20, 21, 22, 23, 24—8 %). The isolated errors shown in Table 27 can also be avoided but because the rules in question do not concern a large number of cases, the teacher should decide if the benefits of general instruction can outweigh the effort of learning.

The avoidable errors presented in 4.3 amount to 35 % of the data (143 items), a proportion that justifies the explicit introduction of selected graphophonemic rules into the teaching process.

Table 27 Isolated errors (18 items)

word	error	hint
he's	/hɪz/	<(i)e> ≠ /ɪ/ in stressed syllables (but *pretty*)
region	/ˈrɪdʒən/	
field	/fɪld/[a]	
singer	/ˈsɪŋgə/	morpheme-final <ng> → /ŋ/[b]
finger	/ˈfɪŋə/	
think	/θɪŋ/	<nk> → /ŋk/
plant	/plænt/	<a> before <sk>, <st>, <ft>, <nce>, <nt> → /æ/ - /ɑ:/[c]
going	/gɔɪŋ/	Inflection doesn't change the base.
clothes	/ˈkləʊzɪs/	<th> ≠ /z/
coffee	/ˈkɒfi:/	Word-final /i:/ and /ɪ/ are practically neutralised to /i/.
people	/ˈpi:pu/	<l> before <V> → /l/
thousand	/ˈtaʊzənd/	<th> ≠ /t/ (but *Thames*, *thyme*, etc.)
pronounce	/prəˈnaʊs/	<n> → /n/
special	/ˈspeʃjəl/	No /j/ after postalveolar consonants (r, (t)ʃ, (d)ʒ)
hobby	/ˈhɒbbi/	No geminates within a morpheme
tunnel	/tju:nəl/	Vowels are short before double <C>
rhythm	/ˈrɪðm/	A word-final nasal following an obstruent forms another syllable
variety	/ˈværiəti/	Place stress immediately before <–ity>, <-ety>

[a] Possibly the 'advanced' version of /i:/ - /ɪ/ (global) underdifferentiation (cf. Table 21)
[b] Except the comparative and superlative forms of adjectives
[c] Irrelevant for communication rather than predictable

8 Conclusion

The unpredictability of pronunciation through spelling cues makes English pronunciation difficult for foreign learners. However, English spelling is basically phonemic and learners may be helped if their attention is drawn to relatively reliable rules or patterns. The present analysis shows that most errors presented by Sobkowiak result from intralingual interference as the learners try to use their experience and knowledge of spelling-to-pronunciation rules.

As shown above, the number of 'difficult words' to be learned can be further reduced by teaching some patterns which the students usually fail to notice without the teacher's help. It is thus advisable to introduce the most powerful and reliable rules, and to make learners cautious about the most tricky spellings and word stress assignment. Quite a lot of tentative rules quoted after Sobkowiak (2001) or formulated in the present paper are only tendencies which leave out a considerable number of exceptions. Some may only refer to a few lexical items which can often be learned by heart with less effort, while others may require too much abstract phonological knowledge to be confidently applied by learners. Ultimately, it is always the teacher who must decide, given a specific didactic context, how much explicit instruction can actually help.

References

Burt, M. K. (1975). Error analysis in the adult EFL classroom. *TESOL Quarterly*, 9, 53-63.

Burt, M., & Kiparsky, C. (1972). *The Gooficon: A repair manual for English*. Rowley, Mass.: Newbury House.

Burt, M., & Kiparsky, C. (1974). Global and local mistakes. In J. Schumann, & N. Stenson (Eds.), *New frontiers in second language learning*. Rowley, Massachusetts: Newbury House Publishing, Inc.

Porzuczek, A., Rojczyk, A., & Arabski, J. (2013). *Praktyczny kurs wymowy angielskiej dla Polaków*. Katowice: Wydawnictwo Uniwersytetu Śląskiego

Sobkowiak, W. (2001). *English phonetics for Poles.* Poznań: Wydawnictwo Poznańskie.

Szpyra-Kozłowska, J. (2011). Phonetically difficult words in intermediate learners' English. In M. Pawlak, E. Waniek-Klimczak, & J. Majer (Eds.), *Speaking and instructed foreign language acquisition* (pp. 286-299). Bristol: Multilingual Matters.

Szpyra-Kozłowska, J. (2012). Mispronounced lexical items in Polish English of advanced learners. *Research in Language, 10(2)*, 243-256.

Szpyra-Kozłowska, J. (2013). On the irrelevance of sounds and prosody in foreign-accented English. In E. Waniek-Klimczak, & L. Shockey (Eds.), Teaching and researching English accents in native and non-native speakers. Second language learning and teaching (pp. 15-29). Berlin Heidelberg: Springer-Verlag.

Szpyra-Kozłowska, J., & Stasiak, S. (2010). From focus on sounds to focus on words in English pronunciation instruction. *Research in Language, 8,* 163–177.

Factors Affecting Word Stress Recognition by Advanced Polish Learners of English

Ewa Waniek-Klimczak

Abstract The acquisition of English word stress by speakers of other languages has received considerable attention over the years, with researchers claiming that although it may be learnable (e.g., Archibald, 1993), it seems to be largely unteachable (Jenkins, 2000). Certain controversies over the chance of success in English word stress teaching notwithstanding, second language phonology research demonstrates the existence of paths which the learning of word stress may follow, with such factors as word frequency, source of errors and the amount of explicit instruction found to affect the process. The present study attempts to explore the effect of the above-mentioned factors on the recognition of English word stress as correct versus incorrect by advanced Polish learners. The results support the expected paths of development of advanced learners, with overgeneralization causing more difficulty than L1 transfer; the effects of extended explicit instruction and word-frequency prove to be more varied, with the former most clearly seen in an increased recognition of incorrect forms and the latter additionally related to learner-specific input.

1 Introduction

The aim of the study is to explore factors affecting the teachability of English word stress by advanced, highly experienced learners of English with an extended period of formal phonetic instruction. Possible patterns in the process of instructed learning are investigated with reference to the perception of word-stress and the recognition of its correct versus incorrect placement in Standard Southern British English (SSBE), as listed by Sobkowiak (1996) in his often-cited collection of Words Commonly Mispronounced. The recognition of word stress is investigated from the perspective of three approaches on the basis of which predictions as to the level of

E. Waniek-Klimczak (✉)
University of Łódź, Łódź, Poland
e-mail: ewaklim@uni.lodz.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_11

difficulty can be made: interlanguage development with respect to the proportion of L1 transfer and developmental processes (Major, 2001[1]), coupled with learnability approach and metrical parameter re-setting (Archibald, 1993; Waniek-Klimczak, 2002), and lexical frequency approach as suggested by Sobkowiak (1996). The three approaches provide the basis for the discussion of the paths that may be followed by advanced learners of English in their word stress recognition. Thus, as suggested by Major (2001), L1 transfer is expected to have a smaller effect than developmental processes in the case of advanced learners of English. With L2 based overgeneralization as a major developmental process, the advanced learners are assumed to compute English stress with developed sensitivity to quantity resulting in the association of word stress with a long vowel or a diphthong (Archibald, 1993; Waniek-Klimczak, 2002). Moreover, more frequent words are assumed to be easier than the less frequent ones, with the order of lexical acquisition expected to follow word frequency in the target language.

2 Explicit Instruction in Teaching English Word Stress

The study rests on the assumption that extended explicit instruction coupled with increased language experience leads to successful acquisition of the non-native sound system. Word stress in English has been long recognized as an important, albeit problematic area for speakers of other languages, regularly included in pedagogical descriptions of the English sound system (e.g., Gimson & Cruttenden, 1994 [1962]; Roach, 1983/2009; Giegerich, 1992; Sobkowiak, 1996[2]) as well as in pronunciation teaching textbooks and materials (e.g., Kenworthy, 1987; Dalton & Seidlhofer, 1994; Celce-Murcia et al., 1996). While individual accounts offered by the books differ, they tend to concentrate on a relative regularity of English stress assignment in relation to the syllable structure, syntactic category, and morphological complexity, directing the learners (and teachers) towards possible rules for predicting word stress in longer words. Apart from the rules, however, the above accounts talk about the importance of stress as a specific property of a word, encouraging learners to treat stress as an element of the pronunciation pattern for every word (the postulate most explicitly expressed by Giegerich, 1992 and Dalton & Seidlhofer, 1994). Thus, word stress is treated as fixed "in the sense that every word has its 'own' stress pattern which is an important part of its identity" (Dalton & Seidlhofer, 1994, p. 39). For those who would still want to follow rules

[1] Insights from Major's work are used here with reference to his main assumption as to the proportion of transfer and developmental errors in SLA, with the former gradually decreasing, and the latter increasing in the process of language acquisition.

[2] The textbooks mentioned here are all used in the courses of English phonetics and/or descriptive grammar throughout Poland, hence their relevance to the study of the effect of (extended) explicit instruction offered to students majoring in English; books devoted to word stress, e.g. Fudge (1984) are used as additional reading in the courses.

(encouraged by e.g., Roach, 1983/2009, p. 79), Gimson (in Gimson & Cruttenden, 1994, p. 203) has a word of warning: "Attempts to reduce the placement of primary accent in English words to a set of rules are bedeviled by the existence of large numbers of exceptions to almost any rule." Still, having warned the readers that generalizations about word stress reflect tendencies rather than rules, he goes on to describe word stress patterns at considerable length, leading potential readers to believe that knowing the tendencies may indeed be helpful.

Explicit teaching of English word stress often begins with introductory remarks pointing to its specificity as compared to languages with regular stress patterns, such as Polish, Czech or French (e.g., Gimson & Cruttenden, 1994). The 'free but fixed' nature of English word stress provides motivation for learning the stress pattern at the lexical level as well as rule or tendency-based generalizations. The motivation for teaching word-stress is further based on the contrastive function of English word-stress and its relevance for intelligibility. The belief in the importance of explicit instruction cannot be overstated here. As is the case with all pronunciation teaching, the description and practice go together, with the assumption that explicit instruction and metalinguistic knowledge are indispensable in teaching all aspects of the target sound system. This position has been aptly expressed by Dziubalska-Kołaczyk (2002, p. 104) "phonetics and phonostylistics of a second language are teachable to foreign learners as long as they receive, besides exposure, explicit formal instruction in and about the relevant aspects of the second language and about the relation between the second language and the learner's prior competences".

However, the belief in success in word stress teaching varies. The most pessimistic position has been taken by Jenkins (2000), who says that although sentence stress is vital for communication, and consequently, needs to be included in the priorities for teaching English pronunciation for international communication, word stress teaching should be abandoned as she believes it to be largely unteachable. While this extreme position is best seen in a specific (English as a Lingua Franca) context, it stresses the difficulty of English word-stress for speakers of other languages. The difficulty is clearly increased by the above mentioned exceptions to the rules. As noted by Sobkowiak (1996), however, it is mainly the regularity of English stress postulated on the basis of phonological criteria of syllable weight that may be of little use to for Polish learners of English. When it comes to morphologically complex words or compounds, Sobkowiak (1996, p. 193) claims that "[i]t is in this area that many Polglish stress errors are made which could be avoided if fairly general rules were remembered".

3 Words Stress Recognition: The Study

The study reported below explores the effect of explicit training in rules of English word stress assignment on the accuracy with which Polish advanced learners of English recognize correct (vs. incorrect) word stress patterns in English. Words selected for the study come from the list of Words Commonly Mispronounced

collected by Sobkowiak (1996) and placed in an Appendix to his *English Phonetics for Poles*. The list contains words "known for being frequently mispronounced by *Polish learners of English* at roughly intermediate stage of Polglish competence" (Sobkowiak, 1996, p. 294); as the list has been organized on a word frequency-basis, it is assumed that the level of difficulty of individual words will gradually decrease with a growing language proficiency of the learner. Mispronunciations included in the list represent a wide range of L1 and overgeneralization phenomena (see contributions by Porzuczek and Zając, this volume, for the discussion of other aspects of the list). For the purpose of this study, only those words in which mispronunciations result from incorrect stress placement have been selected.

3.1 Study Design

The study adopts a descriptive design, looking for possible effect of selected factors on the accuracy with which advanced learners mark the word they hear is as correctly or incorrectly stressed. The following factors are explored:

- The degree of phonetic instruction/proficiency development[3]
- Word frequency
- Source of error

The degree of phonetic instruction is used as a grouping variable with two levels: basic (1st Year group), versus extended (2nd Year group), corresponding to two stages of training offered to English majors at the University of Łódź. As the study follows Sobkowiak's (1996) prediction as to the expected mispronunciations, word frequency is operationalized in terms of the order of words in the list of Words Commonly Mispronounced (ibid.), with test words selected on the basis of a predicted source of mispronunciation: L1 transfer or L2 based overgeneralization.

The study aims to describe development and explore tendencies rather than test hypotheses; consequently, the data are discussed on the basis of descriptive statistics and the proportion of the accuracy scores in each group for each word, with the relationship between the sets of data additionally checked with the use of a student t-test statistics for independent samples (between the groups) and paired observations (within the groups). As the study checks the recognition of words both correctly and incorrectly stressed, it is the accuracy with which each pronunciation is marked as correct or incorrect that is discussed.

[3] Due to specific institutional setting in which the study was conducted (English Department, University of Łódź), the two factors are confounded, as explicit phonetic instruction is compulsory for all English majors; as noticed by the reviewer, the difficulty to distinguish between the effect of explicit instruction and general proficiency development lowers the strength of explicit instruction argumentation.

3.1.1 Test Words

The criteria for word selection are based on the direction of stress shift in a mispronounced word as predicted by Sobkowiak (1996). As Polish uses a fixed penultimate syllable stress-placement, a shift from a non-penultimate to penultimate syllable has been interpreted as the case of L1 transfer; conversely, the shift from a penultimate to non-penultimate syllable has been treated as the case of L2 based overgeneralization.

The words selected from the list include two and three/four syllable words in the order following word frequency adopted by the list. They have been divided into four groups on the basis of the source of stress placement error and the number of syllables. As can be seen in Table 1, test words contain 10 items in each group except for the group of L1 transfer two-syllable words, which has only 5 items due to an underrepresentation of the words satisfying the conditions in the list. Within the groups, the words differ with respect to the number of syllables (three or four), morphological complexity, the status with reference to Polish equivalents and the degree to which mis-stressing of the word coincides with vowel change.

The first ten most frequent words in the transfer group contain words which have been adapted to Polish (from different source languages or English) and have a penultimate stress pattern in this language, e.g. *energy, success, event, guitar* or (less frequent) *cholera* and *inventory.* The most frequent words with potential overgeneralization, on the other hand, tend to combine word stress shift with vowel change in the incorrect versions, especially in the two-syllable word group, where all mispronunciations involve both a stress-shift and a vowel change, with *area* and *foreign* in the lead (see Sobkowiak, 1996, for phonetic transcription of correct and incorrect versions).

Table 1 Test words used in the study (order based on frequency in Sobkowiak, 1996)

Source of error	Transfer from L1		Overgeneralization	
Length	3(4) syllables	2 syllables	3(4) syllables	2 syllables
1.	Energy	Success	Develop	Area
2.	Possible	Obtain	Determine	Foreign
3.	Industry	Event	Examine	Effort
4.	Available	Guitar	Committee	Palace
5.	Comfortable	Distinct	Professor	Protein
6.	Capable		Insurance	Entrance
7.	Educated		Intestine	Commerce
8.	Abdomen		Canary	Purchase
9.	Cholera		Anatomy	Mischief
10.	Inventory		Opponent	Satire

3.1.2 Participants

The data were collected from two groups of learners, all BA students majoring in English, in their 1st and 2nd year of training (50 participants in each group). As explicit training in phonetics is conducted for two first years in the program they follow, the two groups differ with respect to the degree of the training, with the 2nd Year group receiving extended training in the prosodic aspects of English pronunciation. The difference in the proficiency level in English is implicitly assumed to correspond to the increased number of English-medium courses students receive at the university, with the 2nd Year students expected to have reached a higher proficiency level in English.

3.1.3 Instrument

The task used for data collection was a test which requires participants to decide whether the pronunciation of selected words they heard was correctly stressed or not. The participants were asked to tick the right option on an answer sheet which contained the words they heard in spelling. The order of the words on the answer sheet followed the order on the recording. To direct students' attention to word stress rather than possible differences at the segmental level, explicit instruction to decide about the correctness of word stress, and not general pronunciation of the word, was provided before the test.

Test words were recorded by a highly proficient Polish speaker of English in two versions: correct and incorrect, on the basis of phonetic transcription used in Sobkowiak (1996), with care taken to model the pronunciation as closely as possible on the transcription from the Words Commonly Mispronounced list.[4] As each of the test words was read twice, in a correct and incorrect version, the test included 70 items.[5] The order of items was randomized, with each of the words transcribed in a correct and incorrect version on a piece of paper and then randomly drawn from a box and read by the speaker. Words were read in isolation, with each word preceded by a number and followed by a short pause.

The data were collected during phonetics classes by their regular instructors,[6] who played the recording and distributed the answer sheets. The test took about 10 min to complete, and in most cases students did not need longer pauses and/or

[4] The study rested on the extent to which both versions, the correct and the incorrect one, sounded as possible English pronunciations; I am grateful to Agata Klimczak-Pawlak for making the recording and for the authenticity with which she read both versions.

[5] One additional item added to the Sobkowiak-based list of words was an alternative mispronunciation of *comfortable*; however, as the word proved to be one of the easiest for the respondents, it is not discussed further here.

[6] The data were collected by Anna Gralińska-Brawata, Agata Barańska, Anna Jarosz, Aleksandra Matysiak and Magdalena Zając.

repetition of the items. Out of 186 completed tests, 50 tests for each year were randomly selected for the study.

3.2 Results

The data presented in this section refer to the number and the proportion of the students who provided the right answers, i.e. recognized the recorded versions of the word as correctly or incorrectly stressed. Summarized results (see Table 2) suggest a positive effect of extended explicit training with respect to an overall accuracy level (recognizing items with both correct and incorrect word stress), with 78 % of the accurate recognition in the 2nd Year and 70 % in the 1st Year group. When tested with the t-test for independent samples, this difference proves to be statistically significant at $p = 0.02$, with the judgments following a similar pattern, as manifested by a strong positive correlation between the groups ($r = 0.8$).

An interesting factor that can be observed in the data is the effect of correct versus incorrect pronunciation on the learners' decisions. Most generally, correct pronunciation proves to be easier to recognize than the incorrect one, with the preference for correct form recognition stronger in the 1st Year than the 2nd Year students, suggesting a possible positive effect of training, which may increase confidence in deciding about the incorrectness of the stress pattern. The statistical analysis further supports this observation—when the recognition of correct versus incorrect answers is compared across the groups, the difference is significant with respect to the recognitions of incorrect word stress ($p = 0.01$) but not the correct forms ($p = 0.31$).

The proportion of the accurate recognition of the correct/incorrect forms has been further analyzed for individual groups of words divided on the basis of an expected source of a possible error and word length (longer/shorter words). The results for words creating context for L1 transfer have been tabulated in Tables 3 and 4, with Tables 5 and 6 presenting results for words creating context for L2 based overgeneralization errors for each group.

As can be seen in Table 3, several word stress patterns in the group of three/four syllable words involving L1 transfer provide no or little difficulty for the students; these include correctly stressed *energy, possible, comfortable* and incorrectly stressed *comfortable, capable.* Interestingly, it is in this group of words that the

Table 2 Summarized results for the number of students who recognized the cue word as correctly versus incorrectly stressed, mean value and standard deviation (SD), n = 50 in each group, grand total N = 100

	1st year	2nd year	Grand total
Correct	39.25 (*SD* 9.67)	40.45 (*SD* 10.5)	79.7 (*SD* 20.17)
Incorrect	30.88 (*SD* 13.15)	37.83 (*SD* 12)	68.71 (*SD* 25.15
Right answer	70.13 (*SD* 22.82)	78.28 (*SD* 22.5)	74.2 (*SD* 22.66)

Table 3 Context for L1 transfer: 3(4) syllable words with non-penultimate stress pattern in English; first ten words in the frequency order based on Sobkowiak (1996); data based on 50 responses from the 1st and 50 from the 2nd Year students

		Correct pronunciation		Incorrect pronunciation	
		1st year	2nd year	1st year	2nd year
1.	Energy	48	50	42	47
2.	Possible	48	50	47	47
3.	Industry	38	43	18	32
4.	Available	49	49	48	50
5.	Comfortable	49	50	49	50
6.	Capable	44	46	40	48
7.	Educated	43	38	31	27
8.	Abdomen	22	28	16	32
9.	Cholera	37	43	31	36
10.	Inventory	28	16	14	13
	Total	40.6	41.6	33.6	38.2

Table 4 Context for L1 transfer: 2 syllable words with non-penultimate stress pattern in English; first ten words in the frequency order based on Sobkowiak (1996); data based on 50 responses from the 1st and 50 from the 2nd year students

		Correct pronunciation		Incorrect pronunciation	
		1st year	2nd year	1st year	2nd year
1.	Success	50	48	36	50
2.	Obtain	46	49	43	48
3.	Event	47	45	37	46
4.	Guitar	48	49	44	48
5.	Distinct	37	14	22	23
	Total	45.6	41	36.4	43

amount of 100 % right answers is the highest (expectedly, in the 2nd Year group). The two-syllable words (Table 4) largely follow the same tendency, with the most frequent word *success* recognized in its correct pronunciation by all the 1st Year students and all incorrect ones in the 2nd Year.

When compared to the words where L1 transfer is assumed to be responsible for mispronunciations, the words with overgeneralization as the source of error prove to be more difficult: in this group, the only word whose stress pattern has been recognized by all respondents is the word *develop*, and it is only the incorrect version that students unanimously detect as wrong (see Tables 5 and 6). This observation is further supported by the statistical analysis, which shows that it is in the case of overgeneralization, and not L1 transfer, that the two groups differ in a systematic

Table 5 Context for overgeneralization: 3(4) syllable words with penultimate stress pattern in English; first ten words in the frequency order based on Sobkowiak (1996); data based on 50 responses from the 1st and 50 from the 2nd year students

		Correct pronunciation		Incorrect pronunciation	
		1st year	2nd year	1st year	2nd year
1.	Develop	45	50	26	50
2.	Determine	47	48	40	47
3.	Examine	44	43	45	44
4.	Committee	18	26	13	26
5.	Professor	42	47	11	29
6.	Insurance	34	33	9	16
7.	Intestine	23	40	25	29
8.	Canary	22	40	8	32
9.	Anatomy	37	41	37	44
10.	Opponent	37	34	13	29
	Total	37.2	40.2	22.7	34.6

Table 6 Context for overgeneralization: 2 syllable words with penultimate stress pattern in English; first ten words in the frequency order based on Sobkowiak (1996); data based on 50 responses from the 1st and 50 from the 2nd Year students

		Correct pronunciation		Incorrect pronunciation	
		1st year	2nd year	1st year	2nd year
1.	Area	30	45	25	46
2.	Foreign	44	49	38	48
3.	Effort	46	43	40	47
4.	Palace	46	48	47	50
5.	Protein	39	34	18	16
6.	Entrance	46	49	44	46
7.	Commerce	25	19	18	17
8.	Purchase	46	48	42	46
9.	Mischief	19	26	15	25
10.	Satire	27	26	23	25
	Total	36.8	39.2	31.1	36.9

way ($p = 0.017$), with the incorrect stress recognition being the major source of this regularity ($p = 0.010$ for the incorrect stress recognition across the groups).

The main tendencies observed in the data can be thus generalized with respect to major patterns across the groups and the words. As mentioned above, the across-group analysis shows the existence of two major tendencies. The first one is the

source of possible mispronunciations, with L2-based overgeneralization differentiating the groups at a statistically significant level ($p = 0.017$). The second one is the accuracy in recognizing correct versus incorrect stress patterns, with the recognition of incorrect stress pattern differentiating the groups in the case of overgeneralization ($p = 0.018$).

Within the groups, the correct versus incorrect stress pattern recognition shows an interesting regular preference for correct over incorrect stress pattern recognition. The tendency noticed in generalized across-group data analysis is further supported by comparison of the results within each group: the 1st Year group recognizes the correct forms significantly differently from the incorrect ones in all groups of words, while the 2nd Year group is less regular in their behavior. Once more, the most important difference can be seen in the words creating context for overgeneralization; it is in this group of words that the 2nd Year students recognize incorrect forms with similar accuracy to the correct ones, the tendency stronger in the case of two-syllable words.

Thus, the results indicate that it is the progress in the recognition of incorrect forms that proves to be the most striking feature differentiating the groups both directly (when the results for each group are tested for across-the-group significant difference) and indirectly (when the difference in word stress recognition within the groups is observed). Moreover, the data for individual groups of words support the claim that the source of a possible error as well as the length of the word matter; as can be seen, while words with possible L1 transfer are generally easier than the ones with L2 overgeneralization, there is further difference in the treatment of two-syllable versus longer words, with the additional factor of quantity sensitivity and vowel quality. The above mentioned issues will be discussed at greater length in the following section.

3.3 Analysis and Discussion

The analysis proposed below refers to the degree of explicit instruction as the main grouping variable, with the data organized in correspondence to the source of error and word-frequency within each category. An additional factor of the correct versus incorrect stress pattern recognition is discussed as an element of the acquisition process.

3.3.1 The Effect of Extended Training

As both investigated groups have had the experience of phonetic instruction, it is the extent of this instruction coupled with an increased language experience that differentiates the participants. While the 1st Year group participants may represent an overall language proficiency level close to the 2nd Year students (the proficiency level has not been explicitly investigated), the difference in the extent of phonetic

instruction coupled with an intensive language experience resulting from participation in the minimum of 20 h per week of English-medium classes motivates a cross-sectional approach in the search for developmental patterns. As proved by the data, the two groups follow similar patterns, but represent different populations, with significant difference between the groups in the overall pattern of stress recognition. The positive effect of explicit instruction is supported; however, with the proportion of correct answers ranging from 70 % (1st Year) to 78 % (2nd Year) no firm claims as to the teachability of stress-patterns can be made. When approached from the learnability perspective, however, the progress suggests an on-going process, leading towards possible ultimate attainment.

On further investigation of the effect of training at this stage, interesting differences appear with respect to the recognition of correct versus incorrect stress pattern and the source of the error. Firstly, it is the incorrect stress pattern recognition that proves to differentiate the groups, with the 2nd Year significantly more accurate in deciding which forms are wrong in English. Secondly, it is the group of words with the error caused by the overgeneralization of the L2 system which the 2nd Year group deals with significantly better. Thus, not only does the extensive training increase confidence in differentiating between the correct versus incorrect version, but it also affects overgeneralization of L2-based stress assignment rules.

3.3.2 The Effect of Word Frequency

As predicted by Sobkowiak (1996) the frequency of the words included in the Words Commonly Mispronounced list should correspond to the difficulty level, with learners moving up the list in the process of second language acquisition. This suggests that while the accuracy of recognition of both correct and incorrect forms should gradually diminish with a decreased frequency in both groups of learners, the more advanced/experienced group could be expected to move up with respect to the place on the list where problems begin. Figures 1, 2, 3, and 4 (proportional data based on Tables 3, 4, 5, and 6) show that although a general tendency for the data to follow the frequency prediction can be noticed, several irregularities can also be observed. What needs to be stressed at his point is a possible effect of the approach to the grouping of words adopted in the study—it is assumed that the progress will be observed within these groups, and not across the whole list.

The analysis of the scores from the frequency perspective agreement provides several interesting observations. The most striking tendency across word groups seems to be the regularity with which scores for certain individual words differ from the predicted difficulty level. More specifically, in the L1 transfer longer words (Fig. 1), *industry* proves to be unexpectedly difficult and *cholera* unexpectedly relatively easier than expected for both groups, with the incorrect pronunciation particularly difficult to recognize for the 1st Year group in the first case. L2 transfer shorter words (Fig. 2) show more regularity in relation to frequency, however, the 1st Year group has unexpected difficulty with the recognition of incorrect stress pattern in *success* and *event*.

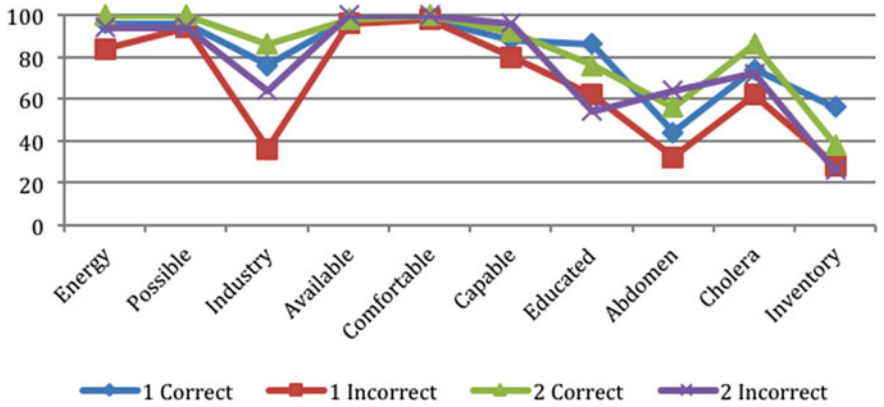


Fig. 1 The proportion of recognition of correctly and incorrectly stressed L1 transfer longer words in each group

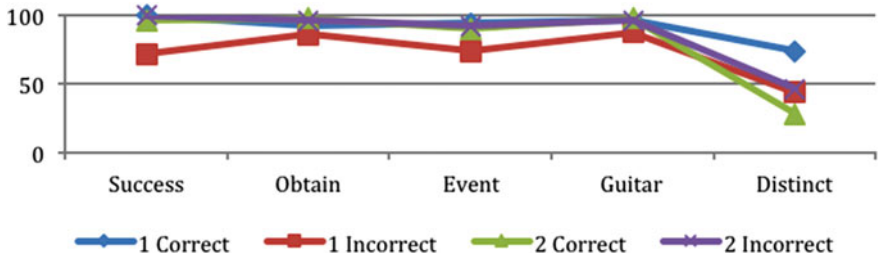


Fig. 2 The proportion of recognition of correctly and incorrectly stressed L1 transfer shorter words in each group

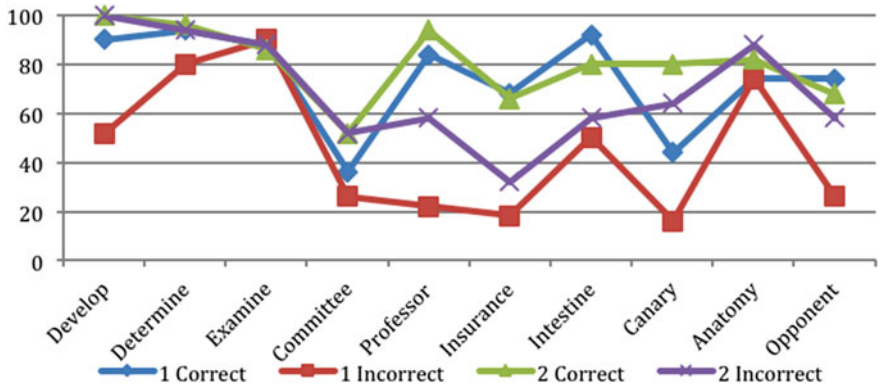


Fig. 3 The proportion of recognition of correctly and incorrectly stressed overgeneralization longer words in each group

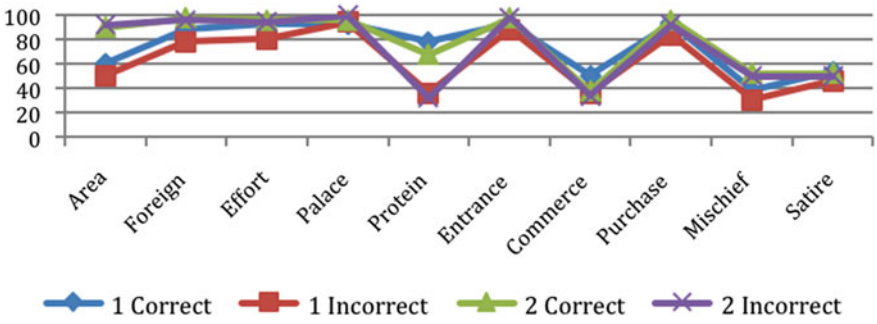


Fig. 4 The proportion of recognition of correctly and incorrectly stressed overgeneralization shorter words in each group

In the overgeneralization data, the regularity is more difficult to observe due to differences between the groups and correct versus incorrect word recognition; however, even here *committee, insurance* seem in contrast to surprisingly high accuracy for *anatomy* (Fig. 3), with *protein* and *commerce* in contrast to easy *entrance* and *purchase* (Fig. 4). These unexpectedly high or low scores seem to be too regular across the groups to be accidental and seem to call for explanation on a word-specific basis. An alternative approach might be to look for a possible general tendency on the basis of the difference between the correct and incorrect pronunciation. It is this approach that can account for the difficulty of words like *industry*, *success*, *event*, *committee*, *insurance*, as in all of these words the difference between correctly versus incorrectly stressed pronunciation involves reduction of a full vowel and consequently, may be less noticeable than the change from a lax to tense vowel in mis-stressed versions of *entrance* and *purchase*. If this reasoning is correct, it suggests the development of quantity sensitivity to be an important element of second language acquisition, with learners noticing the quantity of the vowel more than its quality. In the above cases, quantity sensitivity leads to the recognition of the mis-stressed form in *entrance* pronounced with a tense low back vowel in the final syllable or a diphthong in *purchase*. Interestingly, although the change of the vowel from lax to tense or a diphthong seems to be high in learners' awareness, the tendency to use quantity sensitivity as the basis for stress when there seems to be no other tense vowel is well seen in notorious problems with one of the most frequent words in the list, *area*, which may be confusing for learners due to their frequent mispronunciation of the first vowel as a lax one and an overgeneralization of the final syllable as tense. While quantity sensitivity seems to be an important factor affecting the learnability of word stress, it does not explain all irregularities, such as e.g. unexpectedly high scores for *anatomy*, where a relative ease may correspond to the frequency based on other criteria, such as the use of the word in a popular TV series or possible other sources of frequent input in the specific language environment of the student.

3.3.3 The Effect of the Source of Error

The study shows that the source of error has a significant effect on the recognition of both the correct and incorrect form, pointing to the overgeneralization based errors as significantly more difficult for both groups, especially in the incorrect, error-containing mispronunciation. Not only does overgeneralization cause more problems for both groups, but it also differentiates them best, with the 1st Year group significantly different from the 2nd Year group in the accuracy with which the students recognize mispronunciations. The comparison of the mean data across the groups of words (Fig. 5) illustrates an additional factor affecting the results—the length of the words. Interestingly, the tendency for longer words to be slightly more difficult in the L1 transfer group (with the exception of the 2nd Year recognition of correct stress) is mirrored by the overgeneralization words in the incorrect stress recognition, with the effect the strongest in the 1st Year group. This may suggest that the source of errors interacts with the length of the words, with relatively few two-syllable words creating context for L1 transfer included in the list (see *Test words*).

The observation that overgeneralization causes more problems to the investigated learners than L1 transfer ties in with the expectations formed on the basis of the Ontogeny Model (Major, 2001), as the participants are all advanced learners of English and consequently, can be expected to have reached the stage in their Interlanguage development which is characterized by more problems caused by L2 based overgeneralizations than L1 transfer. Predictably, it is this source of errors that proves to be most sensitive to extended explicit instruction coupled with increased language experience and expected language proficiency progress.

The difference between the two sources of errors and their relative impact on the recognition of the stress patterns can be further related to explicit training which

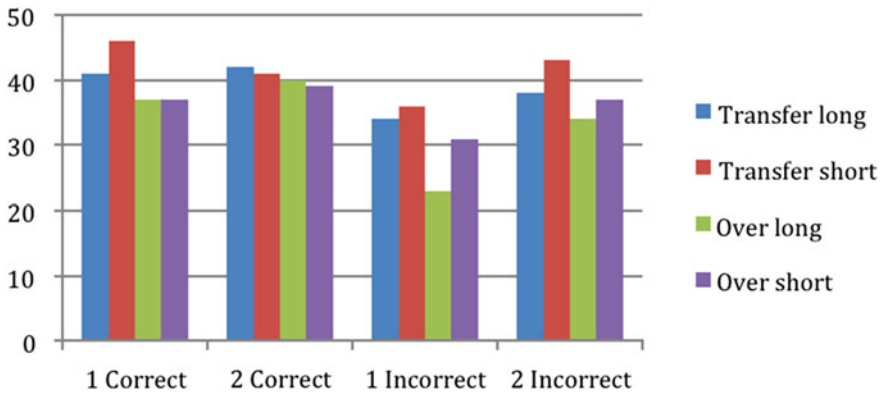


Fig. 5 Mean results for the recognition of correct and incorrect stress word groups from Tables 3, 4, 5, and 6: L1 transfer (Transfer long and Transfer short) and overgeneralization (Over long and Over short); n = 50 for each group

may have had an additional positive effect with respect to predicted L1 transfer in morphologically complex words (e.g., *available*, *comfortable*, *capable*, *educated*). The positive effect of explicit training in this type of words was expected by Sobkowiak (1996), the prediction borne out by the present study.

4 Conclusion

The recognition of word stress patterns as correct or incorrect proves to be relatively difficult for advanced Polish learners of English, with the incorrect stress more difficult, but also more sensitive to explicit instruction and level of proficiency in English. The exploration of three major factors assumed to affect word-stress recognition: the effect of explicit instruction, word frequency and the source of errors supports their relevance and show direction for further research.

The effect of explicit instruction has been observed in the progress which the 2nd Year group seems to have made with respect to the recognition of stress patterns in all cases, but most importantly, in the recognition of the incorrect forms. However, the results need to be interpreted with caution due to a possible confounding effect of general target language experience and increased proficiency. With the 2nd year students significantly more successful in the recognition of incorrect forms it is possible to claim that as noticing incorrect pronunciation correlates with increased language proficiency, it can be treated as diagnostic in measuring the proficiency level. However, the effect of explicit instruction, a factor confounded with increased proficiency level in the present study, needs to be further verified.

As predicted by Sobkowiak (1996), word frequency has been shown to reflect the level of difficulty, with an overall high degree of correspondence. Interestingly, however, the irregularities found in the data suggest directions for further studies, such as the need to distinguish word frequency in the target language from word familiarity (as illustrated by *anatomy*) and an important need to find ways to account for previous language experience of the learner.

The source of difficulty matters—as predicted by Major (2001), advanced learners find it easier to spot mispronunciations based on L1 transfer than the ones resulting from L2 based overgeneralizations. Across the words, what helps to distinguish correct from incorrect stress pattern seems to be vowel quantity (plus quality) more than quality itself, especially in the case of full versus reduced vowels (e.g., *comfortable*, *capable*, *purchase* pronounced with /ei/vs. *industry, committee* pronounced with a full vowel). These results can be interpreted as a support for increased quantity sensitivity, associating a strong syllable with a tense vowel, as noticed by Archibald (1993) and Waniek-Klimczak (2002).

Thus, the relevance of the factors selected for the study has been supported by the data. While more studies are needed to tease apart the effect of explicit instruction and increased language proficiency, it seems possible to argue that although difficult, word stress in English is not only learnable, but also teachable. Word frequency matters, but what seems to matter most in the development of

stress patterns is the ability to discriminate between correct and incorrect stress placement, which takes time and instruction to develop. It is in the incorrect stress pattern recognition that problems with teachability of English word stress may be hidden.

References

Archibald, J. (1993). *Language learnability and L2 phonology: The acquisition of metrical parameters*. Dordrecht: Kluwer Academic Publishers.

Celce-Murcia, M., Brinton, D. M., & Goodwin, J. (1996). *Teaching pronunciation. A reference for teachers of English to speakers of other languages.* Cambridge: Cambridge University Press.

Dalton, Ch., & Seidlhofer, B. (1994). *Pronunciation.* Oxford: Oxford University Press.

Dziubalska-Kołaczyk, K. (2002). Conscious competence of performance as a key to teaching English. In E. Waniek-Klimczak, & J. P. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology* (pp. 97-106). Frankfurt am Main: Peter Lang GmbH.

Jenkins, J. (2000). *The phonology of English as an International Language.* Oxford: Oxford University Press.

Giegerich, H. (1992). *English phonology.* Cambridge: Cambridge University Press.

Gimson, A. C., & Cruttenden, A. (1994). *Gimson's pronunciation of English*. Based on Gimson, A. C. 1962. *An introduction to the pronunciation of English.* London: Arnold.

Fudge, E. C. (1984). *English word-stress*. London: Allen and Unwin.

Kenworthy, J. (1987). *Teaching English pronunciation.* London: Longman.

Major, R. C. (2001). *Foreign accent: The ontogeny and phylogeny of second language phonology.* Mahwah, NJ: Lawrence Erlbaum Associates.

Roach, P. (1983/2009). *English phonetics and phonology. A practical course.* Cambridge: Cambridge University Press.

Sobkowiak, W. (1996). *English phonetics for Poles.* Poznań: Bene Nati.

Waniek-Klimczak, E. (2002). How to predict the unpredictable – English words stress from a Polish perspective. In E. Waniek-Klimczak, & J. P. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology* (pp. 221-242). Frankfurt am Main: Peter Lang GmbH.

Vowel Dynamics for Polish Learners of English

Geoffrey Schwartz

Abstract Vowels in most native varieties of English are characterized by dynamic changes in formant frequencies, an acoustic feature that has been found to be crucial for L1 listeners in vowel identification. By contrast, the acoustic realization of vowels in Polish is characterized by more stable formant patters. This paper presents an acoustic and perceptual study investigating the consequences of these differences for Polish learners of English. Acoustic data reveal that learners at a higher level of proficiency produce more robust formant dynamics. A listening test with L1 English listeners revealed that more dynamic vowel realizations are associated with higher ratings on a scale of foreign accentedness. The cross-language differences may be explained from the perspective of the Onset Prominence model, a theory of phonological representation in which certain 'phonetic details' may be attributed to phonological parameter settings.

1 Introduction—Comparing the Polish and English Vowel Systems

The realization of vowels is one of the more noticeable aspects of a Polish accent in English. The challenges of the English vowel system for Polish learners may to some extent be predicted on the basis of a simple comparison of vowel inventories. Sobkowiak (2008) provides a chart that places the vowels of British English alongside the vowels of Polish in a two dimensional vowel space. From Sobkowiak's diagram we may expect Polish learners to have particular trouble with /æ/, which falls outside of the space occupied by Polish vowels. Sobkowiak's chart thus entails a prediction that Polish /e/ should be a frequent substitution for /æ/, which may also be confused with English /ʌ/ and Polish /a/. Difficulties are also

G. Schwartz (✉)
Faculty of English, Adam Mickiewicz University, Poznań, Poland
e-mail: geoff@wa.amu.edu.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_12

predicted in distinguishing the START and LOT vowels, which occupy a relatively small acoustic space at the bottom and back of the vowel chart.

Despite these insights, there is still room for improvement in textbook comparisons of the Polish and English vowel systems. In particular, on a two dimensional vowel chart there is no representation of time, so it is difficult to express the details of how a vowel changes quality over the course of its duration. This may be a serious omission, considering that research into the identification of vowels by native listeners (e.g., Strange, 1989; Jenkins & Strange, 1999) has shown that static targets on a two dimensional chart play less of a role for vowel perception than formant trajectories over the course of a vowel. Indeed, although consonantal context is often seen as a factor to be controlled for in acoustic studies of vowel quality, perceptual findings (e.g., Strange et al., 1983) have suggested that native listeners identify English vowels in isolation less reliably than those spoken in variable consonantal contexts. The implication here is that native-like acquisition of English implies the mastery of the dynamic acoustic properties of the target language vowels that have been found to be perceptually significant.

At the same time, there is reason to believe that Polish learners may be handicapped in this endeavor by the less robust dynamic qualities of their own vowel system. Thus, while English vowels are characterized by a significant degree of vowel-inherent spectral change with important perceptual implications, Polish vowels tend to show more stable formant patterns. This is illustrated in Fig. 1 in a side by side production of Polish *bić* 'beat' and English *sheep* produced by an RP speaker. In the English vowel, there is noticeably more formant movement, particularly in the F2, while the Polish vowel is marked by an F1-F2 steady-state that occupies nearly its whole duration. In fact, in these tokens, one should expect greater F2 movement in *bić*, since the labial might be expected to have a lower F2 locus frequency.

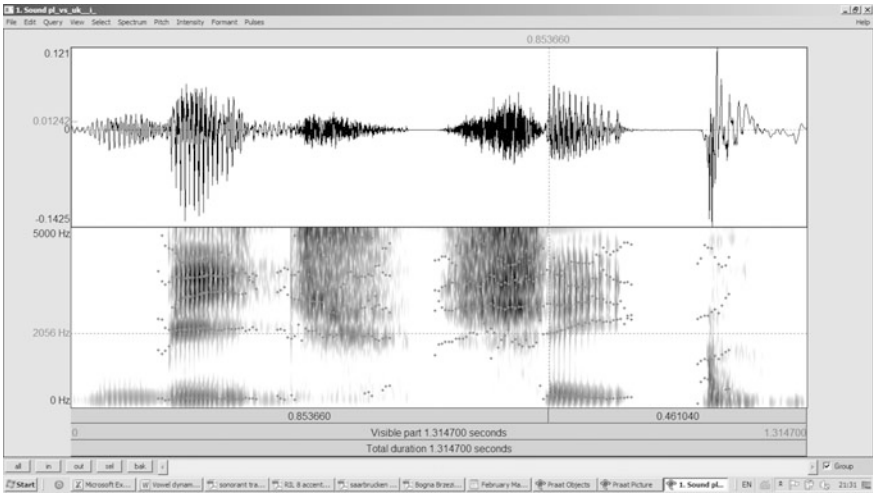


Fig. 1 Polish *bić* 'beat' (*left*) and English (RP) *sheep*

Thus, the consonantal context here is favorable of greater formant dynamics in the Polish token, yet the English token shows more formant movement.

This type of formant dynamic effect is evident in both production and perception. A cross-language comparison by Schwartz (2007) found that these effects were consistent across three different vowel qualities. That study also featured a perception test using the Silent Center paradigm aimed at capturing dynamic specification effects in vowel perception (Strange, 1989). The results showed that unlike English listeners, Poles did not appear to use dynamic information to the same degree in identifying the vowels in their language.

This paper presents a pilot acoustic and perceptual study investigating the production of vowel dynamics by Polish learners of English, as well as the perceptual consequences of Poles' production of formant movement. It is hypothesized that more advanced learners will produce greater spectral change in the target-language vowels, and that the production of dynamic formant patterns will contribute to higher accentedness ratings on the part of native listeners. Section 2 presents the acoustic study. Section 3 presents the accent rating study. Section 4 concludes the paper with discussion of phonological considerations underlying the differences in vowel dynamics in English and Polish.

2 Acoustic Study

This section will describe a pilot acoustic study that compares the dynamic properties of English monophthongs produced by Polish learners. In English, with a rich vowel system that includes diphthongs, as well as a tendency for diphthongization of monophthongs in many dialects, we expect to find a greater degree of formant movement. This acoustic property may be assumed to be related to the perceptual effects of dynamic specification. In Polish, formant movement is hypothesized here to be less robust, reflected in the fact that Polish has a smaller vowel system with less of a tendency for diphthongization. Thus, acquisition of the L2 English pattern may be expected to be associated with increased spectral dynamics over the course of the vowels produced by more advanced learners.

2.1 Participants

Twelve Polish learners of English took part in the experiment. Six of the students were in the first year of English studies at the Institute of English at the University of Silesia (Uniwersytet Śląski). The other six were in advanced years of study (3rd year and higher) at the Faculty of English at Adam Mickiewicz University (UAM) in Poznań. This division formed an independent variable (First Year/Advanced) for our analysis. The advanced students had completed rigorous training in English pronunciation over their first 2 years at university. The first year group had completed only 6 weeks of this training.

2.2 Materials

The participants read a collection of words that was embedded in a larger sentence list that included tokens for another experiment. Analysis was performed on two vowels that are traditionally described as monophthongs in English language textbooks: /i:/ and /æ/. Each participant produced words containing four tokens of each vowel with a basic shape C(C)VC for a total of eight vowel tokens per speaker. With 12 speakers the total number of tokens analyzed was 96. Recordings were made in a soundproof chamber using high quality audio equipment.

2.3 Acoustic Analysis

For each token, the duration of the vowel was selected, and a midpoint identified. The frequency of the first two formants (F1 and F2) was then measured at a point one pitch period after the vowel onset and at vowel midpoint. In many acoustic studies of vowel quality, formant measurements are taken at points that are 20 and 80 % into the duration of the vowel. This is done in attempt to filter out the possible contextual effects of neighboring consonants. This was not done here, since according to many studies investigating dynamic specification in vowel perception (e.g., Jenkins & Strange, 1999), native listeners use this contextual information in identification of the vowel.

The formant measurements were converted into the Bark scale, which better represents the perceptual salience of frequency intervals. Then the distance in bark between the formant measurements at the two points in the vowel were calculated. The following calculations were included in the analysis.

- F1 distance (in bark)
- F2 distance (in bark)
- Euclidean distance (in bark) of F1 and F2

The distance for the single formants were obtained by subtracting one measurement from the other and taking the absolute value. The Euclidean distance was obtained by taking the square-root of the sum of the two squares of the F1 and F2 distances.

2.4 Results

The results for the formant movement parameters as a function of learner group are summarized in Fig. 2. The 1st year group showed a mean F1 distance of 0.63 Bark, while the advanced group had a mean F1 distance of 0.93 Bark. A one way ANOVA revealed that the mean F1 difference was significant. $F(1.94) = 24.2$, $p < 0.001$. With regard to F2 distance, the 1st year group showed a mean F2

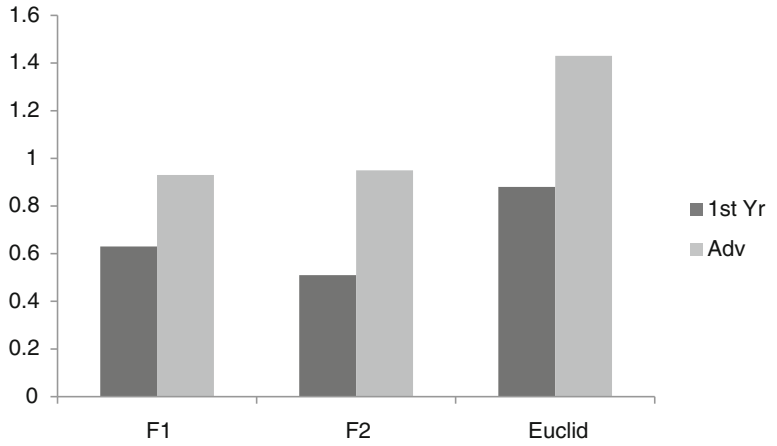


Fig. 2 Formant dynamics as a function of learner group

distance of 0.51 Bark, while the advanced group showed a mean F2 distance of 0.95 Bark. A one way ANOVA revealed that the mean F1 difference was significant. $F(1.94) = 6.34$, $p = 0.013$. The 1st year group showed a mean Euclidean distance of 0.89 Bark, while the advanced group had a mean Euclidean distance of 1.44 Bark. A one way ANOVA revealed that the mean difference was significant. $F(1.94) = 23.6$, $p < 0.001$.

The results for the spectral dynamics as a function of target vowel quality are summarized in Fig. 3. With regard to F1 distance, the low vowel tokens showed greater movement (1.21 for /æ/ vs. 0.33 for /i:/). A one way ANOVA revealed that the mean F1 difference between the two vowels was significant, $F(1.94) = 109.4$,

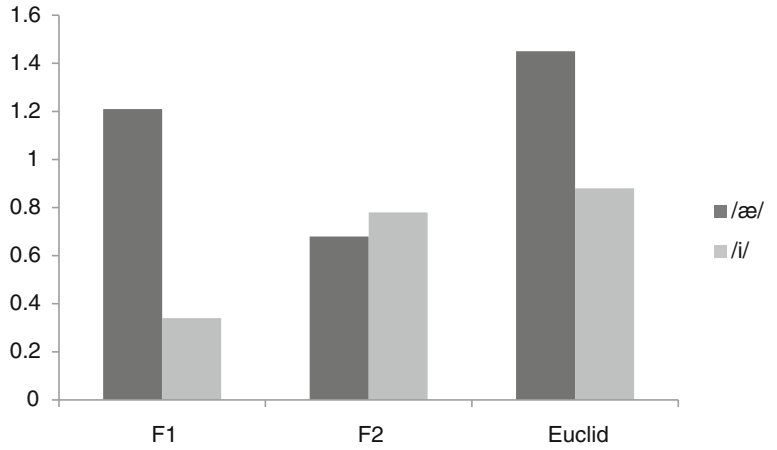


Fig. 3 Formant dynamics as a function of vowel quality

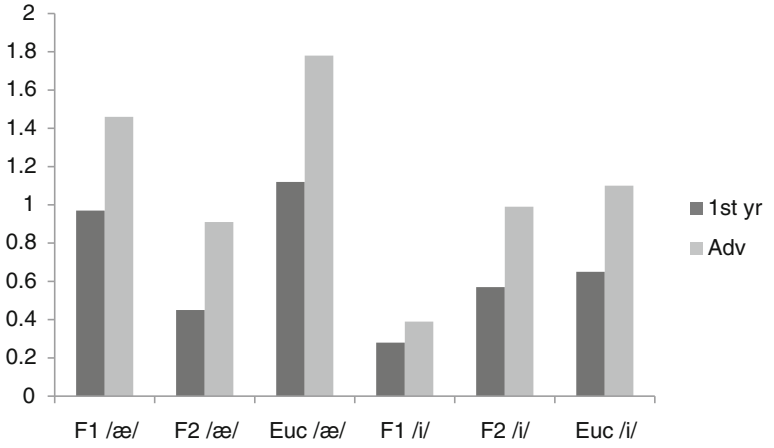


Fig. 4 Formant dynamics as a function of learner group sorted for vowel quality

$p < 0.001$. The high vowel /i/had a slightly higher mean F2 distance (0.78) than the low vowel (0.68). A one way ANOVA revealed that the mean F2 difference between the two vowels was not significant, $F(1.94) = 1.00$, $p = 0.319$. With regard to Euclidean distance, the large difference in F1 movement led to higher measures for the low vowel (1.45) than the high vowel (0.88). A one way ANOVA revealed that the mean Euclidean difference between the two vowels was significant, $F(1.94) = 25.8$, $p < 0.001$.

The results sorted for both learner group and vowel quality are summarized in Fig. 4. In each case the advanced group showed greater formant movement. The differences were significant in each case ($p < 0.005$).

The results for the Euclidean distance for each of the individual speakers are summarized in Fig. 5. Those participants from the advanced group are labelled

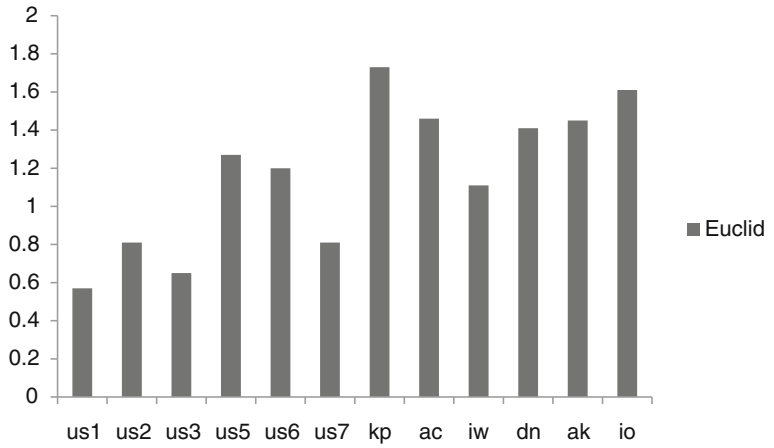


Fig. 5 Individual results for Euclidean distance

according to their initials, while the 1st year group has numbered labels. Again we can observe a general tendency for the more advanced learners to show greater spectral dynamics in vowel realization.

2.5 Discussion

The results of the production portion of our pilot study strongly suggest that the acquisition process of these vowels for Polish learners entails the mastery of dynamic formant patterns, indicating that the target vowels change in quality from onset to midpoint. For each of the measured parameters, the advanced group showed significantly greater formant movement.

In the case of /i:/, this movement was primarily observed in the domain of F2, which is traditionally associated with the vowel feature of backness. The pattern that can be observed is one of diphthongization, by which at vowel onset the formant patterns show a central pattern, something akin to the vowel /ɨ/ or slightly lower, followed by a robust transition to a vowel with a true /i/-like quality. In the case of /æ/, the formant movement is observable primarily in the F1 domain associated with vowel height. At the vowel onset, the quality of the vowel produced resembles /e/, but toward the midpoint undergoes a robust transition to the low front position. These movement patterns observed in the advanced learners largely mirror native models.

It may be hypothesized that one of the difficulties of these vowels for Polish learners stems not from the target location in two dimensional vowel space, but in rather in the relative attention level to different portions of the vowel. Typical Polish error patterns with these vowels suggest that Polish learners hear their quality in terms of the initial portion of the vowels. In other words, /æ/ is heard as /e/ because at the vowel onset it has an /e/-like quality. Native speakers, on the other hand, base their percept not on the initial portion of the vowel, but rather on the formant movement over the course of the vowel. Thus, L1 English listeners appear to decide on vowel quality only after hearing a larger portion of the vowel. With regard to /i:/, Polish realizations typically have an /ɪ/-like quality, suggesting that they are based on a percept originating in the initial portion of the target-language vowels. Schwartz (2010) proposed temporal representations to illustrate the English /i/-/ɪ/ contrast alongside Polish /i/. An important difference between Polish and English /i/ involves where in the vowel the target /i/-like quality is reached: late in English (reflecting diphthongization) and early in Polish.

3 Accent Rating Test

While the production study provided evidence that formant dynamics are an essential aspect of acquisition for proficient learners of English, it is not clear to what extent the acoustic patterns are reflected in native speakers' perception of

accentedness. To address this question, an on-line accent rating study was carried out in which L1 English listeners evaluated the accentedness of words containing more and less robust formant dynamics.

3.1 Stimuli

The test was made up of eight pairs of tokens from the production study, two native tokens of the vowels in question, and several fillers. The pairs were made up of "more" and "less" dynamic realizations of the vowels. The "more" dynamic stimuli showed a mean Euclidean difference of 1.46 Bark, while the "less" dynamic tokens had a mean Euclidean distance of 0.55 Bark. A paired t-test revealed that these differences were significant ($p < 0.001$). Additional tests revealed that the two categories of stimuli did not differ significantly in terms of duration ($p = 0.64$) or F2/F1 frequencies ($p = 0.31$) at vowel midpoint.

3.2 Respondents and Procedure

The test was carried on-line and engineered using Google forms. Native speakers of English based in the US and UK were recruited using social media networks. A total of 18 respondents took the test. For each stimulus token, listeners rated the realization on a 7-point Likert scale, with 1 representing "most foreign" and 7 "most native-like". The participants were instructed to use headphones to ensure sound quality. The test was engineered so respondents could not go back to previous tokens once their responses were recorded.

3.3 Results

The results of the accent rating survey were as follows. The mean rating of the "less dynamic" tokens was 2.59, while the "more dynamic" stimuli scored an average of 3.71. This difference was significant ($p < 0.001$). An examination of the individual pairs revealed that this general trend held regardless of the token being produced. The results for individual pairs are summarized in Fig. 6. In each case the "more dynamic" token is rated higher. In four out of eight pairs, paired *t*-tests revealed a statistically significant difference, while in two other pairs, the difference approached significance.

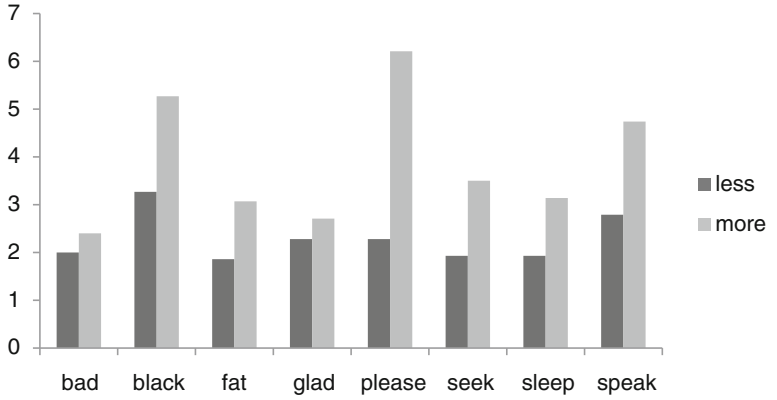


Fig. 6 Listener ratings for stimuli as a function of formant dynamics

3.4 Discussion

The results of the listener rating test suggest that the acoustic features observed in the production study, involving dynamic formant movement in the speech of more advanced learners of English, were indeed relevant for native listeners' perception of foreign accentedness. An important question that arises from the accent rating data involves to what extent we may attribute the listener ratings to the realization of the vowels, instead of to other possible phonetic aspects of the stimulus tokens. For this reason, the vowel duration and midpoint formant values were controlled for in the experiment.

With regard to other features not related to the vowels under study, a small number of phonetic differences in the pairs of tokens could be observed. In particular, the *please* pair showed a clear VOT difference between the less dynamic and more dynamic tokens, suggesting that the realization of the initial /p/ in the less dynamic token had a more Polish realization, which may have contributed to its low rating. The less dynamic realization of *black* was realized with negative VOT associated with Polish /b/, which may have contributed to its low rating. With regard to the *glad* tokens, the more dynamic token showed Polish-style negative VOT, yet was still rated higher than the less dynamic token with had the short-lag VOT. In short, the other identifiable phonetic features associated with the stimulus tokens appeared to have a minimal effect on listener ratings. We may therefore conclude that the vowel realization in terms of formant dynamics indeed appears to affect listener rankings of nativeness.

4 The Phonology of Vowel Dynamics

The pilot studies described in this paper suggest systematic differences between the vowel systems of Polish and English with regard to formant dynamics. From the point of view of L2 pronunciation teaching, the implications of this work should be clear: the dynamic patterns associated with stressed vowels in English should be emphasized if native-like pronunciation is a goal of instruction. Beyond the practical applications of our study, however, it is worthwhile to investigate the phonological considerations that underlie the phenomena we have observed. In other words, why should it be the case that the two languages are characterized by differences in what may be claimed to be gradient phonetic detail that is irrelevant to the phonological systems?

With regard to this question, I would like to suggest that the differences observed here in vowel formant dynamics are indeed phonological in nature, and that they may be described by a phonological model in which gradient phenomena may have categorical origins (Donegan, 2002). The categorical origins of phonetic gradience stem from the assumptions of Natural Phonology (NP; Donegan & Stampe, 1979), which influenced more recent works (e.g., the papers in Hayes et al., 2004) that incorporate phonetic considerations into the constraint-based environment of Optimality Theory (Prince & Smolensky, 1993). There is, however, an important distinction between NP and this later work. Phonetically-based phonology in OT has sought to derive phonological categories on the basis of representations constructed from gradient phonetic details. For NP, the representations are categorical, while the gradient effects are derived.

4.1 Rhythm, Vowel Quality, and CV Coarticulation

In a 1983 paper, Donegan and Stampe offer a perspective on rhythmic organization in language. Having noted the issues with finding empirical support for the original rhythm class hypothesis (Pike, 1945), and building on later works that seek to construct rhythmic categories from a collection of phonological parameters (e.g., Bertinetto, 1989; Ramus et al., 1999), they propose a more far-reaching set of typological parameters. While their proposal may be claimed to be too strong, one of their parameters may have slipped by unnoticed for influential researchers studying rhythm. In particular, Donegan and Stampe (1983) note that languages described as stress-timed typically have what they call “dynamic vocalization”, described as a tendency for diphthongization of vowels. It is exactly such a property that we may expect to produce dynamic specification effects in vowel perception (Strange et al., 1983). Thus, we may suggest dynamic specification in vowels may be a function of rhythmic class.

Later works looking into vowel perception in English have suggested that many of the dynamic effects in the identification of vowel quality have their origins in the

contextual effects of neighboring consonants (see e.g., Jenkins & Strange, 1999). If dynamic specification is a function of rhythm, and dynamic specification stems from CV interaction, we should therefore expect more robust CV interactions in languages classified as stress-timed. Thus, it is predicted that CV coarticulation should be more robust in English, a stress-timed language, than in Polish, a syllable-timed language.[1] These predictions were tested by Schwartz and Aperliński (2014) in a comparative study of consonant perception carried out on English and Polish listeners. They found that the relative perceptual weight CV formant transitions for perception of consonant place of articulation was greater in English than in Polish. Polish listeners, by contrast, attended to the spectrum of noise bursts to a larger degree.

In most contemporary theories of phonology, the relative weight of transition versus burst cues to consonant place of articulation would be characterized as a gradient phonetic detail that falls outside the realm of phonology proper. However, the connection with rhythmic classes suggests that such cross-language differences are in fact phonological in nature, predictable by categorical parameters.

One possible parameter of this type is built into the Onset Prominence framework (OP; Schwartz, 2013), in which segmental and syllabic representations are constructed from the same representational hierarchy. In the OP environment, the initial vocalic portion in CV sequences, represented as the VO node of structure (Schwartz, 2013), is ambiguous with regard to the traditional consonant-vowel distinction. Phonetically, this portion of the signal is, strictly speaking, part of the vowel. Yet since it typically contains acoustic information about the identity of the preceding consonant, it may be built into consonantal representation. This ambiguity creates a parameter setting by which languages may differ in a systematic way. When the VO node is included in obstruent representations, we should expect more robust CV interaction, and dynamic formant patterns in vowel quality, as has been observed for English. By contrast, in Polish, the VO node is posited to be part of vowel representations, with the effect that targets are reached earlier in the vowel and vowel quality is less diphthongal.

The OP representational parameters for Polish and English are illustrated in Fig. 7, in which we see two different structural parses of a CV sequence. On the left, we see the VO node of structure contained in the lower-level vowel structure, as a result of which the phonetic effects of the consonant on the vowel quality is predicted to be minimal. On the right, the consonant representation includes the VO, so the phonetic effects of C-place are predicted to be more robustly evident in the vowel quality. The consequences of these representations may be observed if we consider the English word *two* spoken by a native speaker and by a speaker with a strong Polish accent. In the native realization, VO is contained in the representation

[1] On the basis of its rich inventory of consonant clusters, some authors (e.g., Ramus et al., 1999) have suggested that Polish is not a true syllable-timed language. See White & Mattys (2007) and Schwartz (2010) for arguments that vowel reduction metrics better capture the assumed rhythmic categories than phonotactic metrics. See also Wagner (2007) and Malisz (2013) for evidence that, at least for spontaneous speech, Polish shows syllable timing in coupled oscillator models.

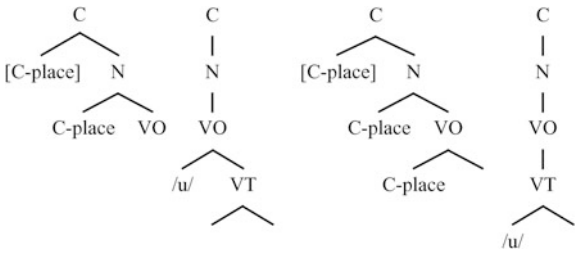


Fig. 7 Onset Prominence representational parameters for stop-vowel sequences

of the /t/ as we see on the right, so the anterior coronal stop has a significant fronting effect on the early portion of vowel, which is typically realized as [ʉ]. When *two* is spoken with a heavy Polish accent, the vowel is realized as a back vowel almost immediately. The anterior place of articulation of the consonant has a less significant impact on the realization of the vowel, as is predicted by the representations on the left.

The parameters in Fig. 7, when applied to Polish and English, entail a prediction that consonant perception in English is based more on transitional acoustic properties, while Polish listeners rely on consonant-internal burst and frication noise. This prediction is borne out when we consider the behavior of stop consonants in syllable codas. In English, coda stops are frequently unreleased, which is predicted in representations that incorporate CV or VC transitions. In Polish, coda stops are typically produced with an audible release burst, suggesting that the transitional information is insufficient for reliable identification on the part of listeners.

5 Final Remarks

This paper has presented acoustic and perceptual data to suggest that Polish speakers' acquisition of English vowels entails the mastery of dynamic formant movement inherent in many target language production. The phonetic data presented in this study may be seen to support a hypothesis by which the dynamic properties of vowel in English as opposed to Polish stem from a systematic differences in the phonologies of the two languages. The phonological hypothesis is based on a parametrization of the magnitude of C–V coarticulatory effects, which are predicted to be more robust in English than in Polish.

References

Bertinetto, P. (1989). Reflections on the dichotomy 'stress' vs. 'syllable-timing'. *Revue di Phonetique Appliquee, 91-9*, 99-130.

Donegan, P., & Stampe, D. (1979). The study of natural phonology. In D. A. Dinnsen (Ed.), *Current approaches to phonological theory* (pp. 126-173). Bloomington: IUP.

Donegan, P., & Stampe, D. (1983). Rhythm and the holistic organization of language structure. In J. Richardson et al. (Eds.), *The interplay of phonology, morphology, and syntax* (pp. 337-353). Chicago: Chicago Linguistic Society.

Donegan, P. (2002). Phonological processes and phonetic rules. In K. Dziubalska-Kołaczyk, & J. Weckwerth (Eds.), *Future challenges for natural linguistics* (pp. 57-81). Muenchen: LINCOM EUROPA.

Hayes, B., Kirchner, R., & Steriade, D. (2004). *Phonetically based phonology*. Cambridge: Cambridge University Press.

Jenkins, J., & Strange, W. (1999). Perception of dynamic information for vowels in syllable onsets and offsets. *Perception and Psychophysics, 61(6),* 1200-1210.

Malisz, Z. (2013). *Speech rhythm variability in Polish and English—a study of variability in rhythmic levels*. PhD dissertation, Adam Mickiewicz University in Poznań.

Pike, K. L. (1945). *The intonation of American English*. Ann Arbor, MI: University of Michigan Press.

Prince, A., & Smolensky, P. (1993). *Optimality Theory: Constraint interaction in Generative Grammar*. Ms., Technical Reports of the Rutgers University, Center for Cognitive Science. [ROA 537].

Ramus, F., Nespor, M., & Mehler, J. (1999). Correlates of linguistic rhythm in the speech signal. *Cognition, 73,* 265–292.

Schwartz, G. (2007). Vowel quality and its holistic implications for phonology. Ms. Adam Mickiewicz University.

Schwartz, G. (2010). Rhythm and vowel quality in accents of English. *Research in Language, 8,* 135-147.

Schwartz, G. (2013). A representational parameter for onsetless syllables. *Journal of Linguistics, 49(3),* 613-646.

Schwartz, G., & Aperliński, G. (2014). The phonology of CV transitions. *Crossing phonetics-phonology lines*. In E. Cyran & J. Szpyra-Kozłowska (Eds.), *Crossing phonetics-phonology lines*. Newcastle: Cambridge Scholars Publishing. 277-298.

Sobkowiak, W. (2008). *English phonetics for Poles* (3rd edition). Poznań: Wydawnictwo Poznańskie.

Strange, W. (1989). Evolving theories of vowel perception. *Journal of the Acoustical Society of America, 85,* 2081-2087.

Strange, W., Jenkins, J., & Johnson, T. (1983). Dynamic specification of coarticulated vowels. *Journal of the Acousical Society of America, 74,* 695-705.

Wagner, P. (2007). Visualising levels of rhythmic organization. *Proceedings of ICPhS XVI. Saarbrucken.*

White, L., and Mattys, S. L. (2007). Rhythmic typology and variation in first and second languages. In P. Prieto, J. Mascaró, & M.-J. Solé (Eds.), *Segmental and Prosodic issues in Romance Phonology* (pp. 237-257). Current Issues in Linguistic Theory series. Amsterdam: John Benjamins.

A Personal Note on the Larynx as Articulator in English

Linda Shockey

Abstract In tribute to Professor Sobkowiak's well-known ability to think "outside the box", I offer some suggestions for expanding the teaching of English phonetics so as to include functions of the glottis such as degree of aspiration, devoicing, and glottal reinforcement. I suggest that a focus on only the features which are phonologically contrastive does not give a rounded picture of the perceptually significant features of the spoken language or of its unique personality.

1 Introduction

As a teacher of English phonetics, I have followed the traditional English IPA chart for consonants. The obvious reason is that consonants represented here (except for glottal stop) are the source of phonological distinctions and are thus linguistically primary. The larynx has also featured as a source of intonation and of F0 change in stressed syllables, culturally-attuned voice quality, the voiced/voiceless distinction, and the glottal fricative. While this is an impressive load for any physical system, I have subsequently become convinced that it does not cover all the services provided: at least for English, the larynx is also very active in distinguishing degree of stress and position in the syllable.

We find in the literature that the larynx is an active articulator for making laryngeal consonants, and activity at the uvula and farther down the vocal tract has been discussed at length with respect to Semitic, Caucasian, and other languages, but not foregrounded with respect to English. We have traditionally been introduced to articulation as an oral function, and despite our glottal stop and fricative, we tend to underplay anything farther back than "velar". Yet, from watching the famous X-ray movies of Ken Stevens producing a series of one- and two-syllable words (Öhman & Stevens, 1963 and attendant website) it is immediately clear that

L. Shockey (✉)
University of Reading, Reading, UK
e-mail: L.Shockey@reading.ac.uk

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_13

the larynx moves at least as much and probably more than the oral articulators in a highly coordinated and complicated manner. The process of articulation would be better described if it emphasised both laryngeal and supralaryngeal activity, and this would, in addition, give a better overall picture of the *sound* of English as well as its contrastive properties.

1.1 Aspiration

No one doubts that aspiration in English is a property of (phonologically) voiceless plosives which begin stressed syllables. It is not generally recognised that *degree* of aspiration is positively correlated with degree of stress: in completely unstressed syllables such as in *Vanuatu*, there is little or no aspiration, but in intermediate cases, there are intermediate degrees of aspiration, as in words such as *Mediterranean*, where the main stress falls on the following syllable (cf. Vaux, 2002). Aspiration reflects a delicate balance between glottal opening and airflow but also provides a significant cue for perception of stressedness. Since stressed syllables are important for speech perception (cf. Cutler & Norris, 2002), an understanding of this variable is helpful for students of English. In addition, duration of aspiration can provide information about speech rate (cf. Summerfield, 1981).

I specify "phonologically voiceless" plosives above because of devoicing.

1.2 Devoicing

After a pause or a voiceless segment, English word-initial "voiced" plosives are generally voiceless (Lisker & Abramson, 1964 and many subsequent authors) and distinguished from voiceless plosives by lack of aspiration. In this position, the distinction is maintained by the timing of voicing onset rather than by voicing during the consonant. We have here, therefore, not a simple "buzz" of the vocal folds during the closure (as we are taught in Phonetics 101), but a complex interaction of the oral and laryngeal articulators. Vocal fold activity is not an "on/off" function … it is a delicate adjustment between airflow and oral pressure. Baken (1987, p. 376) observes "VOT (onset of voice after plosive release) is a reliable and easily measured correlate of an important and precisely regulated aspect of speech motor coordination".

Word-final devoicing of obstruents (not just plosives) is common in English (Shockey, 2003, p. 30), though it is a phonetic, not a phonological process. The underlying voiced/voiceless distinction is maintained through other means, such as greater duration in vowels before so-called voiced segments, i.e. the final voicing is (notionally) tagged onto the vowel rather than the consonant. This phenomenon is sometimes called "pre-fortis clipping", which looks at the phenomenon from the opposite perspective, assuming that vowels are shortened before phonologically voiceless segments rather than lengthened before voiced. In either case, it involves

a complex balance between oral and laryngeal articulation which minimises the amount of back pressure on the vocal folds which occurs when true voicing takes place during an obstruction in the oral tract.

1.3 Glottal Reinforcement/Glottalisation

Glottal reinforcement is noted as a feature of some varieties of English by many if not most authors (cf. O'Connor, 1952; Higgenbottom, 1964; Roach, 1973). It is certainly found in spoken General American and Standard Southern British (Shockey, 2003, p. 36).

Here I refer not to the substitution of /t/ by glottal stop intervocalically, but rather the simultaneous or semi-simultaneous closure at the glottis in syllable-final (phonologically) voiceless stops followed by a consonant or silence, as in 'hatband, clocktower, stopwatch'. (Some have reported reinforcement before [ʧ] as well). It is tempting to say that voicelessness is characterised by a closed rather than an open glottis in this environment in English.

Kortlandt (1997, p. 75) presents evidence that glottal reinforcement has long been a firm feature of spoken English:

> *Collins and Mees have recently advanced our knowledge of the matter by listening 'to a number of pre-1930 audio recordings, together with two recordings of later date, to hunt for what evidence, if any, could be found of glottalisation in the speech of people who had been born in the latter half of the nineteenth century'* (1994, *p*. 75). *They were impressed by 'the general pervasiveness of glottalisation in the material we have at our disposal. Far from having to search for odd examples, äs we thought might be the case at the outset of our investigation, we have found glottalisation in the speech of all our subjects, even in formal delivery'* (1994, *p*. 78). *They conclude that glottalization was well-established in upper-class English speech by the latter half of the nineteenth century and suggest that 'this would imply that glottalisation was even more widespread in the standard language than our observations indicate* (1994, *p*. 79).

Garellek (2011) presents experimental evidence that glottalisation is an important cue to the perception of English 't' in the environments where it occurs, though it provides less reliable information about the other voiceless stops. It seems likely that laryngealisation rather than complete glottal closure affords a similar clue, though this is an empirical question.

2 Conclusions

The issues discussed here may seem too sophisticated for the average student of phonetics, and it is presumably the case that not all of them are interested in the "soundscape" of English. But, in my opinion, for those who want or need to deal competently with spoken language, a balance between focusing on the phonological

architecture of the language and phonetic detail such as contributed by laryngeal activity could be effective.[1] It offers a partial answer to the question "What makes English sound different from other languages?"

References

Baken, R. J. (1987). *Clinical measurement of speech and voice*. Abingdon: Taylor and Francis Group.

Collins, B., & Mees, I. M. (1994). Though'ts on the glo'ttal sto'p.' In J. Mallinson, A. van der Weel, & T. A. Westendorp (Eds.), *Knowing the words: Liber amicorum for Robert Druce* (pp. 68–81). Leiden: Academic Press (cited in Kortlandt).

Cutler, A., & Norris, D. (2002). The role of strong syllables in segmentation for lexical access. In G. T. Altmann (Ed.), *Psycholinguistics: Critical concepts in psychology* (pp. 157–177). Abingdon: Routledge.

Garellek, M. (2011). The benefits of vowel laryngealization on the perception of coda stops in English. *UCLA Working Papers in Phonetics, 109,* 31–39.

Higginbottom, E. (1964). Glottal reinforcement in English. *Transactions of the Philological Society, 63*, 129–142.

Kortlandt, F. H. H. (1997). How old is the English glottal stop? Leiden University Repository. http://hdl.handle.net/1887/1926:175-179. Accessed June 2014.

Lisker, L., & Abramson, A. (1964). A cross-language study of voicing in initial stops: acoustic measurements. *Word, 20*, 384–422.

O'Connor, J. D. (1952). RP and the reinforcing glottal stop. *English Studies, 33*, 214–18.

Öhman, S. E. G., & Stevens, K. N. (1963). Cineradiographic studies of speech: procedures and objectives. *Journal of the Acoustical Society of America, 35*, 1889.

Roach, P. (1973). Glottalization of English /p/, /t/, /k/ and /t∫/- a re-examination. *Journal of the International Phonetic Association, 3(1)*, 10–21.

Shockey, L. (2003). *Sound patterns of spoken English*. Oxford: Blackwell.

Summerfield, Q. (1981). Articulatory rate and perceptual constancy in phonetic perception. *Journal of Experimental Psychology: Human Perception and Performance, 7(5)*, 1074–1095.

Vaux, B. (2002). Aspiration in English. http://people.ds.cam.ac.uk/bv230/li8/aspiration-uwm.pdf. Accessed June 2014.

[1] My students have been, on the whole native speakers, so I must skirt around the issue of whether NNS should be encouraged to use or to simply be aware of these features.

Using FL Accent Imitation in L1 in Foreign-Language Speech Research

Arkadiusz Rojczyk

Abstract The article proposes the elicitation technique based on FL accent imitation in L1 for FL speech research. The assumption of the proposed technique is that learners will transfer those FL phonetic features into L1 that they perceive as salient or characteristic, which may be helpful in establishing a hierarchy of FL pronunciation features and their level of acquisition. The tested parameter in the current study was the Voice Onset Time in voiceless plosives. Ten Polish learners of English produced Polish words embedded in sentences in Polish accent and in imitated English accent in Polish. The results showed that they increased VOTs for /p, t, k/ in imitation of English accent, which shows that they transferred this parameter into Polish as a marker of English accent. Moreover, there was a significant positive correlation between the learners' VOTs in English and in Polish with imitated English accent, indicating that the proposed elicitation technique is able to determine the degree of acquisition of the FL pronunciation feature.

1 Introduction

Pronunciation is considered to be one of the most complex human motor skills (Levelt, 1989). One of the major goals of FL learners is to acquire the pronunciation that will not diverge significantly from the target native norm. This task is made difficult by a complex interaction between the L1 sound system and the FL sound system. Non-native sounds will be shaped both in perception and production by already established native sound categories. This ongoing process of assimilation and dissimilation is modeled by both the Perceptual Assimilation Model (Best, 1995; Best & Tyler, 2007) and the Speech Learning Model (Flege, 1995). The ultimate success in acquiring native-like pronunciation in FL is influenced by an array of linguistic and non-linguistic factors (Piske et al., 2001). The complexity of

A. Rojczyk (✉)
University of Silesia, Katowice, Poland
e-mail: arkadiusz.rojczyk@us.edu.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_14

reaching native-like or accent-free FL pronunciation is highlighted by the estimation that only between 5 to 15 % adult learners are ultimately successful (Birdsong, 1999, 2005; Novoa et al., 1988; Seliger et al., 1975).

The elicitation techniques used in the FL speech research rely on collecting speech samples of different length and structure in the foreign language in order to assess the learners' divergence from the native norm. Such elicitation of non-native speech samples may be in the form of individual words, sentences, describing pictures, recounting personal experience, or repeating after a native model (references in Piske et al., 2001). All of them logically use the foreign language as a means of assessing the level of acquisition of investigated phonetic parameters. In the current study, we propose FL accent imitation in L1 as an alternative method of investigating the degree of acquisition of FL speech parameters. The main tenet of this method, as will be argued below, is that the feature which is well acquired in FL will be transferred as a characterizing feature in the imitation of FL accent in L1. The application of this method will be later tested with the parameter of Voice Onset Time to ascertain the degree of transfer of a non-native feature into L1 pronunciation.

2 FL Accent Imitation in L1

The fundamental concept in FL accent imitation in L1 is the notion of transfer. The fact that some structures are transferred from the native language to a foreign language has been discussed in numerous studies (Andersen, 1983; Ausubel, 1963; Gagné, 1965; Kellerman, 1995; Odlin, 1989; Osgood, 1946). The understanding of transfer here is not in the sense that it sets the objective of explaining why certain features of L1 are transferred into FL and how they can predict learners' errors (see Major, 2008, for a discussion). It is understood here as the process "which incorporates (…) previously acquired capabilities" into a new activity (Gagné, 1965, p. 129), and which has 'relevant aspects' that are relatable to the new experience (Ausubel, 1963). In the technique of FL accent imitation in L1 the concept of transfer is taken to the extreme. While in the standard elicitation technique of FL pronunciation samples in which learners provide productions in FL, some features may be less exposed depending on the task specificity, in the FL accent imitation task in L1 those features must be highly exposed due to the task requirements. This is the key element of the proposed technique. When asked to imitate FL accent in their L1, the learners will be pressed to consistently reveal the features of FL pronunciation that they have already acquired. We argue here that this technique will shed more light on which FL pronunciation features the learners perceive as the most characteristic. Moreover, the task characteristics may be paradoxically more informative than standard elicitation in FL due to an element of mockery and fun. Recordings of speech samples in laboratory conditions may be inhibiting and when it is done in the speakers' FL it may result in combined inhibitions that will influence the obtained samples. The element of mockery and entertainment implicit in accent imitation may lead to more open and less restricted productions. When the

test material is appropriately devised, such a technique may be no less informative than the classic elicitation in FL, if not more, depending on the construction of the experiment.

Accent imitation is not new in speech research and has been used for various purposes. For example, Adank et al. (2013) exposed participants to Glaswegian accent of English and asked them to either repeat or imitate the sentences produced by a mode talker. They applied the Communication Accommodation Theory (Giles et al., 1991; Shepard et al., 2001) to interpret the results which showed that imitation had a positive effect on the perceived social attractiveness of the speaker. Other studies have shown that people relatively easily acquire the features of a new accent or a dialect in the new surrounding (Delvaux & Soquet, 2007; Evans & Iverson, 2007; Munro et al., 1999; Trudgill, 1986).

Some studies in forensic speaker identification have investigated imitation of a foreign accent as a form of voice disguise with results indicating a rather low level of effectiveness that is easily detectable (Baldwin & French, 1990; Rose, 2002; Storey, 1996). As noted by Rose (2002, p. 194) "offenders often try to assume an accent as part of a disguise. A discussion of the sound structure of language is a good place to point out how difficult it is to imitate an accent correctly … It is relatively easy for a linguist who knows the phonological structure of a given language to detect a bogus accent when it is used for disguise". Most relevant to the current study, Neuhauser (2011) looked into the production of voicing and VOT in voiced and voiceless stops by native speakers of German imitating French accent as well as by native speakers of French imitating German accent. It relied on the cross-linguistic difference in which German contrasts short-lag and long-lag VOT values for voiced and voiceless stops, while French uses prevoicing and short-lag VOT values respectively. The results showed a complex pattern in which German speakers reduced VOT during French accent imitation for voiceless plosives, the values being even lower than for native French. On the other hand, French speakers imitating German accent did not achieve native-like values for voiceless plosives. The author concludes that there may be a degree of exaggeration in accent imitation. This degree of exaggeration is not a disadvantage in the elicitation technique proposed here. From the point of view of the acquisition of FL pronunciation, any degree of exaggeration in imitation of an FL accent in L1 will be a marker of a pronunciation feature that learners find characteristic in FL and have acquired it to an extent that they can transfer it to L1 as an element of FL phonetics. More recently, Sypiańska and Olender (2013) looked into VOTs produced by Polish learners in imitated English accent in Polish—the procedure they termed 'phonetically transplanted speech'—as a function of the amount of phonetic training. They observed that both theoretical and practical courses in phonetics increase the phonetic awareness of the FL sound system that can be tranferred into L1 in an accent imitation task.

3 The Current Study

The current study uses the proposed elicitation technique of FL accent imitation in L1 to investigate the production of English accent in Polish by Polish learners. The tested parameter is VOT, which is differently implemented in English and Polish to cue the voicing contrast between /p, t, k/ and /b, d, g/. English contrasts short-lag and long-lag VOT values for voiced and voiceless plosives (Keating et al., 1983; Lisker & Abramson, 1964). On the other hand, Polish uses prevoicing or negative VOT values for voiced plosives and short-lag values for voiceless plosives (Keating, 1980; Keating et al., 1981; Kopczyński, 1977; Mikoś et al., 1978). These cross-linguistic differences result in two types of learning challenges that Polish learners of English must face. First, they must learn to reduce voicing in the hold phase of English /b, d, g/. Second, they must learn to increase VOT values in English /p, t, k/ by delaying the onset of voicing of the following vowel after the release burst. While the former challenge has relatively little influence on the perception of accent due to the fact that English native speakers may also prevoice in hyperspeech or for certain places of articulation or vowel contexts (Kessinger & Blumstein, 1997; Magloire & Green, 1999; Miller et al., 1986), the latter challenge has more serious consequences on the perceived accent. Polish learners' production of insufficiently long VOT values for English voiceless plosives not only contributes significantly to the perception of foreign accent but also to the miscategorization of voiceless /p, t, k/ as voiced /b, d, g/ by native speakers. Experimental research has shown that speakers of Polish normally produce insufficient VOT values for English voiceless plosives that do not match those reported for native speakers (Waniek-Klimczak, 2005) and they do not have a categorical shift between voiced and voiceless categories along the positive VOT continuum typical for native speakers (Rojczyk, 2010). Consequently, the purpose of the current study is to use the proposed elicitation technique to investigate if, and to what extent, the Polish learners of English will transfer long-lag values for English /p, t, k/ in their imitation of English accent in Polish. Accordingly, the two research questions are formulated below:

1. Do Polish learners of English transfer longer VOT values for voiceless plosives in Polish to imitate English accent? Do they find this temporal parameter as a salient cross-linguistic phonetic feature?
2. Is the production of longer VOT values for voiceless plosives in English correlated with increasing VOT values in the imitation of English accent in Polish? Will learners who produce longer VOT values in English also produce relatively longer values in imitated English accent in Polish?

3.1 Materials

The materials were composed of nine sentences, each containing words beginning with voiceless /p, t, k/ in English and Polish. English sentences were used to

establish the learners' VOTs for English voiceless stops. Polish sentences also contained voiceless /p, t, k/ each. All words containing /p, t, k/ in both languages were stressed on the first syllable. Neither the prosodic strength nor the lexical frequency was controlled. The distribution of test words in English and Polish sentences was not uniform, because the purpose of the experiment was not to directly compare VOTs in English and Polish. The purpose was to directly compare the sentences produced with default Polish accent and imitated English accent, which means that all the positional and prosodic factors were uniform in both tasks which were based on the same sentences. The English and Polish sentences with underlined target words containing voiceless stops are presented below:

Put it on top of the cake
Take this pistol carefully
Cats are tiring pets
Cast this pen on the table
Ten people caused this accident
This Coke is for two parties
This passenger can't take all the baggage
Those pots and cans are totally everywhere
The cost of this pan is too high

Ta kawa jest pyszna
Tak właśnie ma pan kosić
Polak musi kupić taki samochód
Ten kielich będzie znowu pełny
Postaw kasę na ten mecz
Każdy chce pięknie tańczyć
Powiedz komuś o niej, ale tylko nie kłam
To jest koncert w pełni księżyca
Tamten film miał bardzo pusty koniec

3.2 Participants

Ten advanced Polish learners of English participated in the study, six females and four males. They were recruited from the second year of a 5 year English programme at the Institute of English, University of Silesia. They had received three semesters of training in English phonetics and reported to be fluent in English. The mean age was 20.4 years. All participants volunteered to participate in the experiment. None of them reported any speech or hearing disorders nor had any indication of such.

3.3 Procedure and Recording

All participants were instructed that they would perform three tasks: reading sentences in English, reading sentences in Polish, and reading sentences in Polish with

imitated English accent. They were encouraged to treat the last task as entertainment, a type of mockery. They were told to imagine that they were native speakers of English trying to read in Polish and to demonstrate in mockery what it would sound like. They were naive as to the parameter subject for the analysis. The sentences were presented in orthography on a printout sheet. Upon entering the lab, the participants were given approximately 5 min to read the sentences in quiet and prepare their productions prior to the recording session. They were constantly encouraged to treat it as entertainment and were assured that it would not be analysed as correct or incorrect imitation. They were asked to read the sentences with natural tempo and intonation.

The experiment took place in the Acoustic-Phonetic Laboratory at the Institute of English, University of Silesia. The recordings were made in a sound-proof booth. The signal was captured with a headset dynamic microphone Sennheiser HMD 26, preamplified with USBPre2 (Sound Devices) into .wav format with the sampling rate 48 kHz, 24-bit quantization.

3.4 Measurements

All measurements were made using waveform and spectrogram displays available in Praat (Boersma, 2001). The Voice Onset Time was measured using the standard definition as "the time interval between the burst that marks release and the onset of periodicity that reflects laryngeal vibration" (Lisker & Abramson, 1964, p. 422). The plosive release was measured as the first distinct pulse in the amplitude and the onset of voicing was measured as the first zero crossing of the periodic pulse. The total number of measured tokens was 810.

3.5 Analysis and Results

The measurements in ms were analysed using repeated-measures 2 × 3 ANOVAs with two independent variables: task (Polish; Polish with English accent) and the place of articulation (/p/; /t/; /k/). The correlation was performed using non-parametric Spearman correlation, which is more conservative than parametric correlations and does not assume normal distribution of the data.

The analysis of the participants' VOTs in English sentences yielded the following values: /p/ (M = 36; SE = 2.8); /t/ (M = 56; SE = 2.8); /k/ (M = 61; SE = 2.6). These values are higher than those reported by Keating et al. (1981) for Polish in isolated words, which means that the learners learnt to increase VOTs for English voiceless stops. That fulfills the assumption that they already possessed the

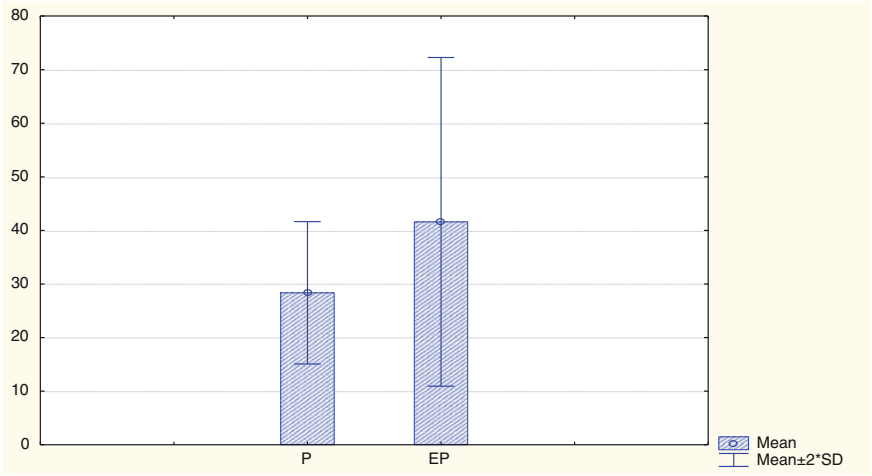


Fig. 1 Mean VOT values is ms for Polish sentences produced with Polish accent (*left*) and imitated English accent (*right*)

temporal feature of FL that they might or might not transfer to their native language in imitation of English accent.

There was a highly significant effect of task for sentences in Polish (Polish accent; imitated English accent), indicating that imitation significantly influenced the produced VOTs [$F(1, 89) = 106.81$, $p < 0.001$]. The mean VOT in Polish blocked for all the three places of articulation was 28 ms (SE = 0.7) and for imitated English accent 42 ms (SE = 1.6). It clearly shows that the participants consistently increased VOTs for /p, t, k/ in Polish as a marker of English accent (Fig. 1).

The interaction of the task (Polish accent; imitated English accent) and the place of articulation (/p/;/t/;/k/) was not significant [$F(2, 178) = 0.24$, $p > 0.05$], showing that the place of articulation did not influence the increased VOTs in imitated English accent. Post hoc Bonferroni tests revealed that VOTs were significantly longer in imitated English accent for all the three places of articulation ($p < 0.001$). The VOT values in Polish accent were 23 ms (SE = 1.1) for /p/; 25 ms (SE = 0.8) for/t/; and 37 ms (SE = 1.3) for /k/. Respectively, the values for imitated English accent were 35 ms (SE = 2.4) for /p/; 38 ms (SE = 2) for /t/; and 51 ms (SE = 2) for /k/ (Fig. 2).

The Spearman's Rank Order correlation was run to determine the relationship between the learners' VOTs in English and in the imitated English accent in Polish. There was a strong positive correlation [$r(88) = 0.602$, $p < 0.001$], which indicates that the learners' who produce longer VOT values in English voiceless plosives also produce longer values while imitating English accent in Polish.

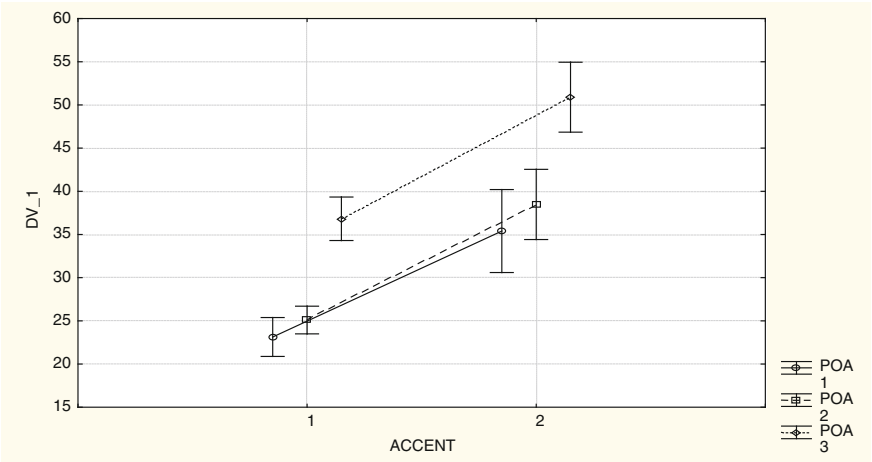


Fig. 2 The interaction between the task (1: Polish accent; 2: imitated English accent) and the place of articulation (1: /p/; 2: /t/; 3: /k/) in the production of VOT in ms

4 Conclusions

The purpose of the current study was to test the proposed elicitation technique which uses the imitation of FL accent in L1. The major assumption of the technique is that learners will transfer the FL pronunciation features that they find characteristic or salient into L1, thus revealing the perceived hierarchy of FL phonetic features and the level of their acquisition. The current study investigated the Polish learners' production of VOT values in voiceless plosives. Two research questions were formulated and subsequently tested.

1. Do Polish learners of English transfer longer VOT values for voiceless plosives in Polish to imitate English accent? Do they find this temporal parameter as a salient cross-linguistic phonetic feature?

The analysis of the results revealed that Polish learners produced significantly longer VOTs when imitating English accent than when producing the test sentences in their L1 accent. The transfer of an English phonetic parameter to Polish indicates that this parameter is perceived as salient or characteristic and typical for the English phonetic repertoire. It also points to the degree of acquisition of long-lag VOT values for English /p, t, k/. Although the analysis of the sentences produced in English already showed that the learners increased VOTs for voiceless stops, we are inclined to argue that the fact that they also transferred them into their L1 in accent imitation is a stronger indication of the acquisition of this feature. While longer VOTs may be lexically encoded in some words in English as a result of exposure to multiple instances from the input in English, transferring this feature into Polish is a conscious strategy bypassing lexical influences. In other words, producing words which are only heard with shorter VOTs with longer VOTs requires more phonetic sensitivity and control than resorting to stored instances of tokens in the lexicon.

2. Is the production of longer VOT values for voiceless plosives in English correlated with increasing VOT values in the imitation of English accent in Polish? Will learners who produce longer VOT values in English also produce relatively longer values in imitated English accent in Polish?

The results of the correlation showed that the learners that produced longer VOTs in English also produced longer VOTs in imitated English accent in Polish. It leads to a natural conclusion that the FL pronunciation feature that is acquired more successfully will be transferred more effectively in L1. It is hard to expect the learners who do not produce an FL pronunciation feature in FL to render it in the imitation. The fact that correlation, although it is highly significant, is not perfect suggests that there is a degree of imitational skills that may contribute to the outcome of this elicitation technique. There may be a population of learners who produce the FL feature in FL, but are not able to transfer it to L1 due to lower imitational skills. The talent for mimicry has been identified in second-langue speech research as a significant predictor of a degree of L2 foreign accent (Flege et al., 1999; Purcell & Suter, 1980; Suter, 1976; Thompson, 1991). It is also considered as a subcomponent of language aptitude for pronunciation in L2 connected with empathy and the ability to overcome the 'ego boundary' (Guiora, 1967; Guiora & Acton, 1979; Guiora et al., 1972; Hu et al., 2013). More research is needed to determine the degree of influence of the talent for mimicry in the imitation of FL accent in L1.

References

Adank, P., Stewart, A. J., Connell, L., & Wood, J. (2013). Accent imitation positively affects language attitudes. *Frontiers in Psychology, 4*, 1-10.

Andersen, R. (1983). Transfer to somewhere. In S. M. Gass, & L. Selinker (Eds.), *Language transfer in language learning* (pp. 177-201). Rowley: Newbury House.

Ausubel, D. P. (1963). *The psychology of meaningful verbal learning*. New York: Grune and Statten.

Baldwin, J., & French, P. (1990). *Forensic phonetics*. London, New York: Pinter Publishers.

Best, C. T. (1995). A direct realist view of cross-language speech perception. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research* (pp. 171-204). Baltimore: York Press.

Best, C. T., & Tyler, M. D. (2007). Non-native and second language speech perception: Commonalities and complementarities. In O.-S. Bohn, & M. J. Munro (Eds.), *Language experience in second language speech learning: In honor of James Emil Flege* (pp. 13-34). Amsterdam: John Benjamins.

Birdsong, D. (1999). Introduction: Whys and why nots of the critical period hypothesis for second language acquisition. In D. Birdsong (Ed.), *Second language acquisition and the critical period hypothesis* (pp. 161-181). Mahwah: Erlbaum.

Birdsong, D. (2005). Interpreting age effects in second language acquisition. In J. Kroll, & A. de Grot (Eds.), *Handbook of bilingualism: Psycholinguistic perspectives* (pp. 109-127). New York: Cambridge University Press.

Boersma, P. (2001). Praat, a system for doing phonetics by computer. *Glot International, 10*, 341-345.

Delvaux, V., & Soquet, A. (2007). The influence of ambient speech on adult speech productions through unintentional imitation. *Phonetica, 64*, 145-173.

Evans, B. G., & Iverson, P. (2007). Plasticity in vowel perception and production: A study of accent change in young adults. *Journal of the Acoustical Society of America, 121*, 3814-3826.

Flege, J. E. (1995). Second language speech learning: Theory, findings, and problems. In W. Strange (Ed.), *Speech perception and linguistic experience: Issues in cross-language research* (pp. 233-277). Baltimore: York Press.

Flege, J. E., Yeni-Komshian, G., & Liu, H. (1999). Age constraints on second language acquisition. *Journal of Memory and Language, 41*, 78-104.

Gagné, R. M. (1965). The acquisition of knowledge. In R. C. Anderson, & D. P. Ausubel (Eds.), *Readings in the psychology of cognition* (pp. 116-132). New York: Holt, Rinehart and Winston.

Giles, H., Coupland, J. & Coupland, N. (1991). *Contexts of accommodation: Developments in Applied Sociolinguistics*. Cambridge: Cambridge University Press.

Guiora, A. Z. (1967). Toward a systematic study of empathy. *Comprehensive Psychiatry, 8*, 375-385.

Guiora, A. Z., & Acton, W. R. (1979). Personality and language behavior: A restatement. *Language Learning, 29,* 193-204.

Guiora, A. Z., Beit-Hallahmi, B., Brannon, R. L. C., Dull, C. Y., & Scovel, T. (1972). The effects of experimentally induced changes in ego states on pronunciation ability in a second language: An exploratory study. *Comprehensive Psychiatry, 13*, 421-428.

Hu, X., Ackermann, H., Martin, J. A., Erb, M., Winkler, S., & Reiterer, S. M. (2013). Language aptitude for pronunciation in advanced second language (L2) learners: Behavioural predictors and neural substrates. *Brain and Language, 127*, 366-376.

Keating, P. A. (1980). *A phonetic study of a voicing contrast in Polish*. PhD Dissertation, Brown University.

Keating, P. A., Linker, W., & Huffman, M. (1983). Patterns of allophone distribution for voiced and voiceless stops. *Journal of Phonetics*, 11, 277-290.

Keating, P. A., Mikoś, M. J. & Ganong III, W. F. (1981). A cross-language study of range of voice onset time in the perception of initial stop voicing. *Journal of the Acoustical Society of America, 70*, 1261-1271.

Kellerman, E. (1995). Crosslinguistic influence: Transfer to nowhere? *Annual Review of Applied Linguistics, 15*, 125-150.

Kessinger, R. H., & Blumstein, S. E. (1997). Effects of speaking rate on voice-onset time in Thai, French, and English. *Journal of Phonetics, 25*, 143-168.

Kopczyński, A. (1977). *Polish and American English consonant phonemes: A contrastive study*. Warszawa: Państwowe Wydawnictwo Naukowe.

Levelt, W. J. M. (1989). *Speaking: From intention to articulation*. Cambridge: MIT Press.

Lisker, L., & Abramson, A. S. (1964). A cross language study of voicing in initial stops: Acoustic measurements. *Word, 20*, 384-422.

Magloire, J., & Green, K. (1999). A cross-language comparison of speaking rate effects on the production of Voice Onset Time in English and Spanish. *Phonetica, 56*, 158-185.

Major, R. C. (2008). Transfer in second language phonology. In J. G. Hansen-Edwards, & M. L. Zampini (Eds.), *Phonology and second language acquisition* (pp. 63-94). Amsterdam: John Benjamins.

Miller, J. L., Green, K. P., & Reeves, A. (1986). Speaking rate and segments: A look at the relation between speech production and speech perception for the voicing contrast. *Phonetica, 43*, 104-115.

Mikoś, M. J., Keating, P. A., & Moslin, B. J. (1978). The perception of voice onset time in Polish. *Journal of the Acoustical Society of America* Suppl. 1 63, S19.

Munro, M. J., Derwing, T. M., & Flege, J. E. (1999). Canadians in Alabama: A perceptual study of dialect acquisition in adults. *Journal of Phonetics, 27*, 385-403.

Neuhauser, S. (2011). Foreign accent imitation and variation of VOT and voicing in plosives. *International Congress of Phonetic Sciences, XVII*, 1462-1465.

Novoa, L., Fein, D., & Obler, L. K. (1988). Talent in foreign languages: A case study. In L. K. Obler, & D. Fein (Eds.), *The exceptional brain: The neuropsychology of talent and special abilities* (pp. 294-302). London: Giolford Press.

Odlin, T. (1989). *Language transfer: Cross-linguistic influence in language learning*. Cambridge: Cambridge University Press.

Osgood, C. A. (1946). Meaningful similarity and interference in learning. *Journal of Experimental Psychology, 36*, 277-301.

Piske, T., MacKay, I. R. A., & Flege, J. E. (2001). Factors affecting degree of foreign accent in L2: A review. *Journal of Phonetics, 29*, 191-215.

Purcell, E. T., & Suter, R. (1980). Predictors of pronunciation accuracy: A reexamination. *Language Learning, 30,* 271-287.

Rojczyk. A. (2010). *Temporal and spectral parameters in perception of the voicing contrast in English and Polish*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Rose, P. (2002). *Forensic speaker identification*. London, New York: Taylor and Francis.

Seliger, H. W., Krashen, S., & Ladefoged, P. (1975). Maturational constraints in the acquisition of second language accent. *Language Sciences*, *36*, 20-22.

Shepard, C. A., Giles, H., & Le Poire, B. A. (2001). Communication accommodation theory. In W. P. Robinson, & H. Giles (Eds.), *The new handbook of language and social psychology* (pp. 33-56). Chichester: John Wiley and Sons.

Storey, K. C. J. (1996). Consonants in auditory and acoustic voice analysis in forensic speaker identification in cases of disguised voice. In H. Kniffka, & S. Blackwell (Eds.), *Recent developments in forensic linguistics* (pp. 203-216). Frankfurt am Main: Peter Lang.

Suter, R. W. (1976). Predictors of pronunciation accuracy in second language learning. *Language Learning, 26,* 233-253.

Sypiańska, J. & Olender, A. (2013). Phonetic awareness in Polish learners of English. *Poznań Working Papers in Linguistics 1(1)*: 1-9.

Thompson, I. (1991). Foreign accents revisited: The English pronunciation of Russian immigrants. *Language Learning, 41*, 177-204.

Trudgill, P. (1986). *Dialects in contact*. New York: Blackwell Publishing.

Waniek-Klimczak, E. (2005). *Temporal parameters in second language speech: An applied linguistics phonetics approach*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Teaching to Suppress Polglish Processes

Katarzyna Dziubalska-Kołaczyk, Anna Balas, Geoffrey Schwartz, Arkadiusz Rojczyk and Magdalena Wrembel

Abstract Advanced second language (henceforth L2) learners in a formal setting can suppress many first language (henceforth L1) processes in L2 pronunciation when provided with sufficient exposure to L2 and meta competence (see Sect. 4 for a definition of this term). This paper shows how imitation in L2 teaching can be enhanced on the basis of current phonetic research and how complex allophonic processes such as nasal vocalization and glottal stop insertion can be suppressed using "repair"—a method of providing learners with adequate input, so that they can use the L1 processes to improve L2 pronunciation.

This is a revised and updated version of the paper published by the first four authors: Teaching to suppress L1 processes in L2. In J. Przedlacka, J. Maidment, & M. Ashby (Eds.), *Proceedings of the Phonetics Teaching and Learning Conference UCL, London, 8–10 August 2013* (pp. 35–38). London: Phonetics Teaching and Learning Conference.

K. Dziubalska-Kołaczyk · A. Balas (✉) · G. Schwartz · M. Wrembel
Adam Mickiewicz University in Poznań, Poznań, Poland
e-mail: abalas@wa.amu.edu.pl

K. Dziubalska-Kołaczyk
e-mail: dkasia@wa.amu.edu.pl

G. Schwartz
e-mail: geoff@wa.amu.edu.pl

M. Wrembel
e-mail: magdala@wa.amu.edu.pl

A. Rojczyk
University of Silesia, Katowice, Poland
e-mail: arkadiusz.rojczyk@us.edu.pl

E. Waniek-Klimczak and M. Pawlak (eds.), *Teaching and Researching the Pronunciation of English*, Second Language Learning and Teaching,
DOI 10.1007/978-3-319-11092-9_15

1 Introduction

Phonetics has usually been taught by means of repetition after the model and explanation of the target language phonemic category compared to that of L1. This paper advocates improving the two methods on the basis of "repair" and recent research on imitation. The "repair" method stems from Natural Phonology, whose basic assumptions with regard to phonological processes, the role of phonetic detail in L2 and the task of an L2 learner are presented in Sect. 1. Section 2 is devoted to the presentation of research on imitation and an experiment, while the idea that L1 processes can be used to enhance L2 pronunciation if learners are provided with an appropriately modified context is presented in Sect. 3. Our proposals are formed as suggestions for pronunciation coursebook design and classroom use.

1.1 Processes in Natural Phonology

If phonetics deals with regularities in speech typical for a given language, then phonology has a two-fold task. On the one hand phonology looks for phonemically meaningful regularities, on the other hand it tries to explain these regularities and determine why they occur in a given language. In other words, phonology is about the priorities the speech system of a given language has. Phonology chooses from what phonetics has to offer on more arbitrary bases. The phonology of a language organizes and changes its categories and processes within a system that serves speech production and speech perception. The task of a phonologist is then seen as a search for phonetic details that are crucial in a given language, the word "crucial" referring to phonemic differences and phonetic details responsible for the characteristic of a given language or its accents.

1.2 Phonetic Detail in L2

Especially in second language acquisition, phonology has to incorporate phonetic detail, as reasoning based on phonemic categories alone is not capable of accounting for second language speech phenomena. Phonemic categories are insufficient, too vague, to be used for an analysis of second language acquisition, because their *tertium comparationis* has too narrow a spectrum. Haspelmath (2006) emphasized: "an important consequence of the non-existence of pre-established categories for language typology is that comparison cannot be category-based, but must be substance-based, because substance (unlike categories) is universal." Similar as L1 and L2 sounds might seem, phonemes in L1 and L2 do not reflect identical, pre-defined categories, but are specified by each language separately. Each language chooses its own set of sound categories and defines these categories at least slightly differently, specifying phonetic details in a unique way. Therefore

no two languages have the same set of sound categories with the same phonetic specifications. Such unique arrangements of sound specifications are possible because, as Dziubalska-Kołaczyk (2003) emphasizes, under universal constraints and language-specific conventions, the phonology of each language chooses from a wide range of options that phonetics offers.

Second language learners "know" precisely though not overtly the properties of the categories belonging to their L1, but not to L2. What they have at their disposal when acquiring L2 is the acoustic signal and phonetic detail, along with the morphological and syntactic structures they have learned. In terms of the influence of their first language, they are used to paying attention to some details, but disregarding others. In other words, second language learners do not have access to the phonological system of the second language otherwise than through phonetics. What reaches their ears is the acoustic signal which has to be deciphered. It is deciphered according to first language processes, and in doubtful cases universal processes often apply. The application of L1 and universal processes to the L2 acoustic signal leads to the determination of interlanguage underlying representations. What is produced by second language learners is produced on the basis of these often misperceived underlying representations. Pronunciation training or mastery consists in learning which phonetic detail to disregard, which L1 processes to suppress, and to which phonetic details attention should be paid. Thus teaching or learning L2 pronunciation consists in teaching or learning what L2 phonology chooses from phonetics.

1.3 The Task of an L2 Learner

L2 adult learners do not start learning L2 in a vacuum. It has long been suggested that L1 acts as a "sieve" filtering out speech features which are not significant in the first language phonological system (Polivanov, 1932; Trubetzkoy, 1939/69). A particular contribution of Natural Phonology (Stampe, 1969; Donegan & Stampe, 1979, 2009), to second language phonology research is that L2 learners are equipped with L1 categories, or to be more precise, underlying representations as specified by L1, and that L1 dynamic, preference-based, subconscious processes become active to shape sounds and sound sequences in interlanguage. In new contexts, universal processes,[1] the use of which is not evident in either L1 or L2, are

[1] Stampe's natural processes are universal (see Stampe, 1972, Donegan & Stampe, 2009). In Modern Natural Phonology there are universal process types and language-specific processes. In Natural Phonology, however, "universal" does not mean "active in all languages" (there are very few such universals, i.e. every language has vowels and consonants, every language has rhythm and intonation). "Phonological processes are universal in form, because they are universal in phonetic motivation, but they do not apply universally" (Donegan & Stampe, 2009, p. 8). Similarities between the 6000 languages of the world stem from the fact that speech is produced using the speech apparatus. The speech apparatus determines some criteria according to which languages

used in second language acquisition. These are present when a given process, or even processes, did not have a chance to emerge in L1 because of the lack of a specific context. Its or their use is restricted or suppressed in L2, but L2 learners have not managed to limit the process in accordance with L2 phonology (e.g., as it often happens with Japanese learners of English who devoice final obstruents, although Japanese does not have final obstruents, so it is not a process transferred from L1) (Stampe, 1969; Flege & Davidian, 1984). With time, more universal and L2 processes come into play, as the learner notices that L1 processes are not sufficient to represent L2 sounds.

2 Imitation

Speech imitation takes place when a talker converges with an interacting partner by taking on acoustic characteristics of their speech (Babel, 2012). Imitation has an important role in human acquisition and processing of speech. Imitative tendencies are observed in many cognitive domains of human behaviour, such as reproducing actions and intentions of others (Hauser, 1996; Honorof et al., 2011; McHugo et al., 1985; Nagell et al., 1993). Such convergence may be evoked in imitation of single words (Goldinger, 1997, 1998; Goldinger & Azuma, 2004; Namy et al., 2002) as well in conversational interactions (Pardo, 2006; Pardo et al., 2010, 2012). An array of phonetic properties have been reported to undergo convergence, such as accent, speaking rate, intensity, variation of frequency bands, long-term average spectra, frequency of pauses, and utterance length (Bourhis & Giles, 1977; Giles, 1973; Giles et al., 1991; Goldinger, 1997; Gregory, 1990; Namy et al., 2002; Natale, 1975; Pardo et al., 2012). Other studies have shown that convergence as a result of imitation may occur for VOT (Nielsen, 2011; Shockley et al., 2004), formant frequencies of vowels (Babel, 2010, 2012; Evans & Iverson, 2007; Pardo et al., 2010, 2012), fundamental frequency (Babel & Bulatov, 2012; Bailly, 2003; Gregory & Webster, 1996; Gregory et al., 1993, 1997, 2001; Kappes et al., 2009) or the distance between F2 and F1 in /l/ productions (Honorof et al., 2011).

All the above taken together, it is not surprising that repetition has always had a pivotal role in pronunciation teaching. Taking on acoustic characteristics of a model in repetition is intuitively felt to be the most natural way of inducing a learning

(Footnote 1 continued)
function. Phonological processes are innate and universal—not in the sense of "Universal Grammar", but rather in the sense that they are natural responses to the phonetic difficulties encountered in speaking. They are universal because the human vocal and perceptual apparatus is universal—not because they are somehow part of the human brain. They may be discovered by the child in the process of using his vocal tract—during vocalization, crying, or babbling—and still we call them "innate", since their origins and motivations are innate" (Donegan & Stampe, 2009, p. 6). Nevertheless, there are different ways in which languages adapt to the criteria. Further diversification has psychological, physiological and sociological motivation. A "universal" natural process means phonetically plausible and potentially possible.

process. Although, as reviewed earlier, most of the research on imitation and convergence has focused on speech in L1, non-native speakers also been demonstrated to converge with the model talker, thus temporarily overcoming their L1 speech habits. Non-native speakers have been observed to converge with their native interlocutors in conversational interactions (Beebe, 1981; Young, 1988; Zuengler, 1982) as well as in laboratory conditions in immediate shadowing of the model talker. A series of experiments with Polish learners of English has shown a significant degree of imitation of non-native speech properties such as longer VOTs for voiceless stops (Rojczyk, 2012a), formant frequencies for low front /æ/ (Rojczyk, 2012b), unreleased stops in stop clusters (Rojczyk et al., 2013), and vowel duration as a cue to the voicing of following stops (Zając, 2013; Zając & Rojczyk, 2013).

The applicability of imitation in L2 speech learning must consider some aspects that have been found to affect the magnitude of convergence. First, Goldinger (1998, 2000) reported that low-frequency words engender more imitation than high-frequency words. As a result, a pronunciation course should consistently manipulate lexical frequency of practised items to find a compromise between the need for correct pronunciation of frequent words and sufficient attention to phonetic detail in repetition. Second, model productions for imitation may be characterised by exaggeration of the practised feature. Such exaggeration will attract perceptual attention and is likely to be reproduced in imitation, as demonstrated by Shockley et al. (2004), who artificially extended VOTs that were imitated in shadowing. Finally, students should be exposed to the model voice that not only provides target parameters for imitation, but which also induces an implicit positive attitude. The research inspired by the Communicative Accommodation Theory (Giles et al., 1991; Giles & Ogay, 2007) has demonstrated that the magnitude of convergence and successful imitation are influenced by a complex pattern of interactions between self-reported feeling of closeness in relationship (Pardo et al., 2012), attractiveness rating (Babel, 2012) and status (Giles et al., 1991; Gregory & Webster, 1996).

2.1 Experiment

As a part of a larger project on sandhi in L2 speech, Schwartz, Balas and Rojczyk have examined how imitation reduces glottalization and devoicing in Polish-accented English. Our objective was to study the link between liaison, glottalization and devoicing. In this section we would like to present an acoustic study of C#V sequences in the speech of Polish learners of English. In particular, we examine the relationship between the glottalization of 'word-initial' vowels and the realization of 'word-final' voiced obstruents. In Polish word-initial vowels are glottalized (i.e. preceded by a glottal stop) (Dukiewicz & Sawicka, 1995; Malisz et al., 2013; Schwartz, 2013), whereas 'word-final' underlyingly voiced obstruents are realized as voiceless (Keating, 1979; Slowiaczek & Dinnsen, 1985; Jassem & Richter, 1989). In English these processes do not typically apply. We hypothesize that the suppression of glottalization facilitates the acquisition of C#V liaison, which in turn

Table 1 The overview of task effects on the percentage of consonant voicing, vowel/consonant ratio, percentage of liaisons and percentage of intrusive vowels

Parameter	Reading	Imitation	Native model
% voiced	46.5	64.6	76.2
10 × V/C	23.2	27.8	43
% liaison	14	47	77
% intrusive	27	17	17

facilitates the production of 'word-final' voiced consonants. We analyzed acoustically C#V word boundaries in 35 sentences, in which there were 20 tokens with final /d/ and 15 other tokens, including voiced clusters and voiced fricatives. 16 advanced Polish learners of English completed reading and repetition tasks. The assumption was that in Polish-accented English L1 interference in the form of glottalization prevents C#V liaison and therefore reinforces the context for final devoicing. It was hypothesized that successful production of liaison should enhance native-like production of final voiced obstruents. In the imitation experiment 35 C#V tokens were excised from a sentence list read by native speakers of English and then we asked Polish subjects to imitate the English models (see Appendix 1 for a list of sentences read by Polish and English native speakers and parts of the sentences which were used in the imitation experiment).

English native speakers produced 27 liaised tokens (where no glottalization or pause was visible before the vowel), out of 35, in six tokens a vowel was inserted, and two tokens were unliaised and glottalized. Liaison and vowel intrusion were conducive to voicing.

Results in Table 1 indicate that imitations were closer than read tokens to the native speaker model across all parameters. More detailed results showed that certain speakers did not improve on vowel/consonant ratio, but a closer analysis revealed that they employed much more vowel intrusion in the reading task and that they turned to liaisons in the imitation task. These imitation results show that acquisition is within reach.

3 "Repair": Exploiting L1 to Enhance L2 Pronunciation

3.1 The Idea of "Repair"

The idea behind the "repair" strategy is that speech is actually in the ear of the listener. If we try to replicate the listener's subconscious mental operations upon hearing a word in L2, we may understand how "repair" guides the listener from an unfamiliar intention to a familiar production (see [6] for details). When a native speaker of English hears a Polish word *ptak* [ptak] 'bird', we assume that s/he tries to mentally map it on a familiar L1 string of sounds. The mapping fails, because there are no words beginning with [pt] in English. There appear certain near matches as *potato* or *potentially* in which the [pt] cluster is broken by an unaccented

vowel. An English native speaker then assumes that the speaker of Polish must have deleted a vowel in the word *ptak* and in their careful speech s/he decides to suppress the deletion—this being a moment of repair, where deciphering an unfamiliar intention leads to a familiar production [pə'tak]. It is a suppression of a putative vowel deletion process of a second language—a putative lenition which actually manifests itself as a vowel insertion in the learner's careful production of a second language word, i.e. what amounts to a fortition.

Supposedly, the learner suppresses the vowel deletion process since there is no vowel deletion or a /pt/ sequence in L1. Let us check if it is really the case. In fact, in casual speech *potato* can be pronounced as [pə'teɪtoʊ] with a very short voiced vowel or as [p'teɪtoʊ]. Native speakers of English are not aware of the latter version, because their underlying form contains a vowel /ə/ between /p/ and /t/.

A solution to an unwelcome "repair" should be looked for in the L2 learner's native language. We should look for a process suppressed by "repair," for example, in the learner's casual speech phonology. To make the learner use the same process in the relevant context in a second language, we should provide him/her with an appropriate input to the process, i.e. an underlying intention different from the actual L2 output we want to achieve. In the case under discussion, the learner should try to say /pə'tak/, which would be expected to trigger the application of his/her native English unaccented vowel deletion to arrive at the target /p'tak/. Eliminating the schwa is a step towards gaining a better pronunciation, although the details, as for example places of articulation or other allophonic processes, need be empirically verified. To facilitate the pronunciation learning procedure, adult learners should be made aware of the process applying in their own casual speech (cf. also Wrembel, 2005).

3.2 Examples of L1 Processes Modified to Be Used in L2

Nasal vocalization in sequences of vowels, nasals and fricatives and glottal stop insertion are transferred from Polish to English even by advanced learners (Bogacka, 2007). Apart from telling learners not to vocalize nasals before fricatives in English (i.e. substitute a nasal semivowel, as it happens in Polish, for example the word *sens* is pronounced as /sew̃s/) and asking them to imitate native speech, we can suggest using processes from Polish in a modified context. Nasal vocalization in Polish requires a fricative after the nasal. Having localized a problem with an English word *sense* which has its Polish counterpart *sens* [sɛw̃s], we can ask learners to say *sen* [sɛn] 'sleep', then we add a consonant which does not induce nasal vocalization after the nasal *sen Basi* [sɛn baɕi] 'Basia's sleep', then we add a word beginning with a fricative [sɛn swabɨ] 'weak sleep'. In English we try to split the word *sense* into [sen. s] and then we gradually shorten the pause between the nasal and the fricative, ensuring that the nasal is not substituted by a nasal semivowel.

When trying to eliminate glottal stop insertion[2] in the beginning of words starting with a vowel, we first need to make sure that learners know what a glottal stop is, as many Polish speakers are not aware of its existence, because it does not have a phonemic status in Polish or a letter corresponding to it. We ask students to say *panna* [panna] 'maiden' and then to say [p.anna] slowly and then we compare [p.anna] to *Anna* [ʔanna] 'Ann' where a glottal stop is inserted by Polish native speakers, as it is usually the case before word-initial vowels. Emphasizing correspondences between L1 and L2 processes, even if applied in different contexts, can help students use the processes in L2.

4 Metacompetence

One of the core concepts related to L1 repair is the construct of linguistic meta-awareness, henceforth referred to as metacompetence. It implies conscious attention to a particular linguistic form and its manipulation. Sobkowiak (1991, p. 131) uses the term in the following sense: "[f]unctioning metalinguistically speakers/listeners concentrate on the language itself, deliberately inspecting and manipulating it from the outside". It is thus assumed that foreign language pronunciation may improve though gradual monitoring of an acquired system based on a conscious knowledge of and about the language.

The notion of metacompetence alludes to the distinction in cognitive psychology between 'declarative knowledge' and 'procedural knowledge' that has been also applied to Second Language Acquisition (SLA). Broadly speaking, declarative linguistic knowledge refers to a speaker's knowledge of linguistic facts, whereas procedural knowledge refers to know-how in using the language. In the course of skill development declarative knowledge is converted into procedural form, i.e. it gets proceduralised and leads to L2 competence.

Wrembel (2005) advocates to interpret phonological metacompetence as a multilevel construct consisting of the three following aspects: metalinguistic consciousness, explicit formal instruction, and first language competence. In the light of the present discussion the final component seems particularly relevant. Phonological metacompetence is believed to benefit from drawing on a learner's first language competence as a complete detachment from the native tongue is neither psychologically possible nor pedagogically desirable.

[2] As the anonymous reviewer notes, this might seem to be a minor problem, because many native speakers of English insert a glottal stop in this context. Nevertheless, a glottal stop insertion in English seems to function primarily as a marker of higher-level prosodic constituents (Dilley et al., 1996). An additional complication may be observed in a recent study (Davidson & Erker, 2014), which suggests that glottalization in English is increasing in frequency in linguistically diverse urban areas. Nevertheless, since English pronunciation instruction in Poland and many other countries is based on traditional vernacular varieties, we shall consider non-glottalized pronunciations, produced with modal phonation, as the target for acquisition.

This assumption corresponds to the notion of 'psycholinguistic learning strategy' as proposed by Faerch and Kasper (1986) which consists in conscious reliance on a L2 learner's prior linguistic knowledge of the first language (L1) or any other foreign language (Ln) to form hypotheses about L2, in contrast to a purely inductive strategy that relies solely on the L2 intake. A similar stance was embraced also in the naturalist perspective by Dziubalska-Kołaczyk (2002) who called for raising language awareness through the mediation of the first language. Making learners aware of the 'competences' they already possess may thus constitute a methodological remedy targeted at suppressing the L1 interference and reinforcing the process of L2 acquisition.

The proposed concept of developing phonological metacompetence entails practical recommendations for the teaching of L2 pronunciation that may be translated into specific classroom practices. The scope of potential techniques for the development of phonological metacompetence is multifarious ranging from alternative and innovative methods integrating cognitive, affective and psychomotor aspects of pronunciation learning to more mainstream activities involving conscious analysis of theoretical linguistic knowledge. The former include general awareness-raising techniques incorporating extra- and para-linguistic elements such as gestures, mimicry or relaxation in order to foster conscious control of articulators and perceptual tuning-in. The latter correspond to more elaborate practices that often rely on advanced technologies providing a new range of feedback and presentation modes. For a detailed presentation of specific classroom techniques aimed at developing phonological metacompetence based on different degrees of explicitness, on the one hand, and elaboration, on the other (see Wrembel, 2005).

All in all, through developing phonological metacompetence by drawing, among others, on the learner's first language competence, we can facilitate the process of acquisition of foreign language phonology and the development of L2 competence.

5 Conclusions

The paper has proposed imitation and "repair" methods for enhancing pronunciation teaching to second language learners in a formal context, in accordance with current research in phonetics and phonology.

Imitation tasks for pronunciation practice should be consciously designed by pronunciation coursebooks' authors and teachers so that they maximally enhance phonetic accommodation by using less frequent words, exaggeration, and employing friendly peer models with whom learners will be eager to identify.

The notion of "repair" has been proposed to account for the way in which listeners subconsciously react to second language speech. Upon hearing foreign speech, the listener tries to decipher the signal using their own native language processes. When "making up what has gone wrong in L2", the listener suppresses processes which "must have happened in L2" to result in the output s/he hears. The suppressed processes can often be found in the listener's native casual speech. If so,

we can make learners aware of these processes, and exploit them in a prepared context which is challenging in L2. Similarly to conscious learning of syntax and morphology, conscious knowledge of grammar is advocated on the level of phonetics and phonology.

Enhancing imitation and enabling students to use L1 processes in L2 should result in more effective L2 pronunciation training.

Acknowledgments We would like to thank the two anonymous reviewers.
This research is supported by a grant to Geoffrey Schwartz, Anna Balas and Arkadiusz Rojczyk from the Polish National Science Center (Narodowe Centrum Nauki). "*Sandhi* in Second Language Speech," project #: UMO-2012/05/B/HS2/04036.

Appendix

Stimuli for the production and imitation experiment. The parts of the sentences which were excised, presented to the subjects as read by native speakers, and recorded to test the effects of imitation, are italicized.

They *had evenings* together after she quit her job.
The child had *red ears*.
They *made everyone* stay quiet.
There is a big dark *cloud overhead*.
I *found out* too late about the party.
The band *bowed after* playing the song.
Frank *showed everyone* his new pad.
Hard apples are my favorite.
The kids *made excellent* cookies.
Bill *stayed after* class to talk to the teacher.
I'm *afraid Alice* will be late.
The band *played easy* songs to dance to.
We *paid everyone* about two pounds.
I *tried everything* but I couldn't make it work.
Brad even forgot the car keys.
They *should arrive* around eight.
The *judge ordered* us to pay the fine.
I've *had easier* tests than this one.
We *stayed out* all night.
I *tried out* the new computer.
She was all *tired out* after work.
They *earned equal* amounts of money.
Her *friend Eve* is very nice.
I *tried eel* for the first time in a Japanese restaurant.
Ted's apples are hard and sour.
Rob avoids Alice's uncle.

Mary's earrings are made of aluminium.
I bought *five extra* pounds of apricots.
Peg's other sister likes to *ride every* day.
George often sings after school.
Fred's aunt is 80 years old.
Jazz always was Adam's favorite music.
Today's express train was over 2 h late.
Fred always fills up his tank.

References

Babel, M. (2010). Dialect convergence and divergence in New Zealand English. *Language in Society, 39*, 437-456.

Babel, M. (2012). Evidence for phonetic and social selectivity in spontaneous phonetic imitation. *Journal of Phonetics, 40,* 177-189.

Babel, M., & Bulatov, D. (2012). The role of fundamental frequency in phonetic accommodation. *Language and Speech, 55*, 231-248.

Bogacka [Balas], A. (2007). Repopulating vowel space. Unpublished PhD thesis, Poznań: Adam Mickiewicz University.

Bailly, G. (2003). Close shadowing natural versus synthetic speech. *International Journal of Speech Technology, 6*, 11-19.

Beebe, L. (1981). Social and situational factors affecting the communicative strategy of dialect code-switching. *International Journal of the Sociology of Language, 32*, 139-149.

Bourhis, R. Y., & Giles, H. (1977). The language of intergroup distinctiveness. In H. Giles (Ed.), *Language, ethnicity and intergroup relations* (pp. 119-135). London: Academic Press.

Davidson, L., & Erker, D. (2014). Hiatus resolution in American English: the case against glide insertion. *Language*, *90(2)*, 482-514.

Dilley, L., Shattuck-Hufnagel, S., & Ostendorf, M. (1996). Glottalization of word-initial vowels as a function of prosodic structure. *Journal of Phonetics*, *24(4)*, 423-444.

Donegan, P., & Stampe, D. (1979). The study of Natural Phonology. In D. A. Dinnsen (Ed.), *Current approaches to phonological theory* (pp. 126-173). Bloomington: IUP.

Donegan, P., & Stampe, D. (2009). Hypotheses of Natural Phonology. *Poznań Studies in Contemporary Linguistics, 45(1),* 1-31.

Dukiewicz, L., & Sawicka, I. (1995). *Fonetyka i fonologia*. Kraków: Wydawnictwo Instytutu Języka Polskiego PAN.

Dziubalska-Kołaczyk, K. (2002). Conscious competence of performance as a key to teaching English. In E. Waniek-Klimczak, & P. J. Melia (Eds.), *Accents and speech in teaching English phonetics and phonology* (pp. 97-106). Frankfurt: Peter Lang.

Dziubalska-Kołaczyk, K. (2003). How learners "repair" second language phonology and whether they may become native speakers. In E. Waniek-Klimczak, & W. Sobkowiak (Eds.), *Dydaktyka fonetyki języka obcego. Neofilologia* (pp. 31-64). Płock: Zeszyty Naukowe PWSZ w Płocku.

Evans, B. G., & Iverson, P. (2007). Plasticity in vowel perception and production: A study of accent change in young adults. *Journal of the Acoustical Society of America, 121*, 3814-3826.

Faerch, C., & Kasper, G. (1986). Cognitive dimensions of language transfer. In E. Kellerman, & M. Scharwood Smith (Eds.), *Crosslinguistic influence in second language acquisition* (pp. 49-65). New York: Pergamon.

Flege, J. E., & Davidian, R. D. (1984). Transfer and developmental processes in adult foreign language speech production. *Applied Psycholinguistics, 5*, 323–347.

Giles, H. (1973). Accent mobility: A model and some data. *Anthropological Linguistics, 15*, 87-109.
Giles, H., Coupland, J., & Coupland, N. (1991). *Contexts of accommodation: Developments in applied sociolinguistics*. Cambridge University Press.
Giles, H., & Ogay, T. (2007). Communication Accommodation Theory. In W. Samter, & B. B. Whaley (Eds.), *Explaining communication. Contemporary theories and exemplars* (pp. 293-310). New Jersey: Lawrence Erlbaum Associates.
Goldinger, S. (1997). Perception and production in an episodic lexicon. In K. Johnson, & J. W. Mullenix (Eds.), *Talker variability in speech processing* (pp. 33-66). San Diego: Academic Press.
Goldinger, S. (1998). Echoes of echoes? An episodic theory of lexical access. *Psychological Review, 105*, 251-279.
Goldinger, S. (2000). The role of perceptual epsiodes in lexical processing. In A. Cutler, J. M. McQueen, & R. Zondervan (Eds.), *Proceedings of SWAP Spoken Word Access Processes* (pp. 155-159). Nijmegen: Max Planck Institute for Psycholinguistics.
Goldinger, S., & Azuma, T. (2004). Episodic memory in printed word naming. *Psychological Bulleting Review, 11,* 716-722.
Gregory, S. W. (1990). Analysis of fundamental frequency reveals covariation in interview partners' speech. *Journal of Nonverbal Behavior, 14,* 237-251.
Gregory, S. W., Dagan, K., & Webster, S. (1997). Evaluating the relation between vocal accommodation in conversational partners' fundamental frequencies to perception of communication quality. *Journal of Nonverbal Behavior, 21*, 23-43.
Gregory, S. W., Green, B. E., Carrothers, R. M., & Dagan, A. (2001). Verifying the primacy of voice fundamental frequency in social status accommodation. *Language Communication, 21*, 37-60.
Gregory, S. W., & Webster, S. (1996). A nonverbal signal in voices of interview partners effectively predicts communication accommodation and social status predictions. *Journal of Personality and Social Psychology, 70,* 1231-1240.
Gregory, S. W., Webster, S., & Huang, G. (1993). Voice pitch and amplitude convergence as a metric of quality in dyadic interviews. *Language Communication, 13,* 195-217.
Haspelmath, M. (2006). Pre-established categories don't exist – consequences for language typology and description. Paper presented at the DGfS Annual Conference, February 22-24, Bielefeld Germany.
Hauser, M. D. (1996). *The evolution of communication*. Cambridge MA: MIT Press.
Honorof, D., Weihing, N. J., & Fowler, C. A. (2011). Articulatory events are imitated under rapid shadowing. *Journal of Phonetics, 39*, 18-38.
Jassem, W., & Richter, L. (1989). Neutralization of voicing in Polish obstruents. *Journal of Phonetics, 17,* 317-325.
Kappes, J., Baumgaertner, A., Peschke, C., & Ziegler, W. (2009). Unintended imitation in nonword repetition. *Brain and Language, 111,* 140-151.
Keating, P. (1979). A phonetic study of voicing contrast in Polish. Unpublished Ph.D. dissertation, Brown University.
Malisz, Z., Żygis, M., & Pompino-Marchal, B. (2013). Rhythmic structure effects on glottalisation: A study of different speech styles in Polish and German. *Laboratory Phonology. Journal of the Association for Laboratory Phonology, 4(1),* 119-158.
McHugo, G., Lanzetta, J., Sullivan, D., Masters, R., & Englis, B. (1985). Emotional reactions to a political leader's expressive displays. *Journal of Personality and Social Psychology, 49,* 1513-1529.
Namy, L., Nygaard, L., & Sauerteig, D. (2002). Gender differences in vocal accommodation: The role of perception. *Journal of Language and Social Psychology, 21*, 422-432.
Nagell, K., Olguin, K., & Tomasello, M. (1993). Processes of social learning in tool use in chimpanzees *(Pan troglodytes*) and human children *(Homo sapiens). Journal of Comparative Psychology, 107,* 174-186.
Natale, M. (1975). Convergence of mean vocal intensity in dyadic communication as a function of social desirability. *Journal of Personality and Social Psychology, 32,* 790-804.

Nielsen, K. (2011). Specificity and abstractness of VOT imitation. *Journal of Phonetics, 39,* 132-142.
Pardo, J. (2006). On phonetic convergence during conversational interaction. *Journal of the Acoustical Society of America, 119,* 2382-2393.
Pardo, J. S., Cajori Jay, I., & Krauss, R. M. (2010). Conversational role influences speech imitation. *Attention, Perception and Psychophysics, 72,* 2254-2264.
Pardo, J. S., Gibbons, R., Suppes, A., & Krauss, R. M. (2012). Phonetic convergence in college roommates. *Journal of Phonetics, 40,* 190-197.
Polivanov, E. (1932). La perception des sons d'une langue étrangère. *Travaux du Cercle Linguistique de Prague, 4,* 79-86.
Rojczyk, A. (2012a). Phonetic and phonological mode in second-language speech: VOT imitation. Paper presented at EUROSLA 22 - The 22nd Annual Conference of the European Second Language Association, September 5-8, Poznań Poland.
Rojczyk, A. (2012b). Phonetic imitation of L2 vowels in a rapid shadowing task. In J. Levis, & K. LeVelle (Eds.), *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference* (pp. 66-76). Ames, IA: Iowa State University.
Rojczyk, A., Porzuczek, A., & Bergier, M. (2013). Immediate and distracted imitation in second-language speech: Unreleased plosives in English. *Research in Language, 11*, 3-18.
Schwartz, G. (2013). Vowel hiatus at Polish word boundaries – phonetic realization and phonological implications. *Poznań Studies in Contemporary Linguistics, 49(4),* 557-585.
Shockley, K., Sabadini, L., & Fowler, C. A. (2004). Imitation in shadowing words. *Perception & Psychophysics, 66,* 422-429.
Slowiaczek, L., & Dinnsen, D. (1985). On the neutralizing status of Polish word-final devoicing. *Journal of Phonetics, 13,* 325-341.
Sobkowiak, W. (1991). Metaphonology of English paronomasic puns. *Proceedings of the 12th ICPhS, Aix-en-Provence, 5,* 130-133.
Stampe, D. (1972). *How I spent my summer vacation.* Columbus: Ohio State University Linguistics Department.
Stampe, D. (1969). "The acquisition of phonetic representation". In R. Binnick et al. (Eds.), *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society Chicago: Chicago Linguistic Society* (pp. 443-454). (Reprinted in Stampe, 1979 (see Stampe, 1973) pp. vii–xxv and B. Lust, & C. Foley (Eds.) (2003) *First language acquisition: The essential readings* (pp. 307-315). Malden MA: Blackwell.)
Trubetzkoy, N. S. (1939/69). *Principles of phonology.* Berkeley: University of California Press.
Wrembel, M. (2005). Metacompetence-oriented model of phonological acquisition: implications for the teaching and learning of second language pronunciation. *Proc. PTLC 2005 London*, 1-5.
Young, R. (1988). Variation in the Interlanguage Hypothesis. *Studies in Second Language Acquisition, 10,* 281-302.
Zając, M. (2013). Phonetic imitation of vowel duration in L2 speech. *Research in Language, 11,* 19-29.
Zając, M., & Rojczyk, A. (2013). Imitation of English vowel duration upon exposure to native and non-native speech. Paper presented at Accents 2013, December 5-7, Łódź Poland.
Zuengler, J. (1982). Applying Accommodation Theory to variable performance data in L2. *Studies in Second Language Acquisition*, *4*, 181-192.