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THE BOOK OF ABSTRACTS

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PLENARY TALKS

INTELLIGIBILITY IN THE UNIVERSITY WORKLPLACE: TRAINING FOR TOLERANCE

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Much research has shown that listeners can improve their ability to adapt to new speakers and new accents, complementing the substantial body of work on L2 speech intelligibility. Intelligibility is obviously important at university, with student-teacher exchanges at the core of many studies. The university can also be posited as a microcosm which is representative of workplaces in general, where different communities – in-groups and out-groups – coexist. Professionals working on large university campuses in non-teaching positions may spend their workdays in highly multicultural and multilingual environments. They inevitably encounter their colleagues' accents and comfortable intelligibility is valued; in front-desk posts, workers also deal with a highly diverse public, which results in a different set of interactions.
Given that accent-based discrimination exists in the workplace, I would like to examine what L2 speech researchers can offer such university staff, to help them become more confident and tolerant speakers and listeners. My talk will have three parts. First, I will summarize research about listener accommodation, and how it complements L2 speech intelligibility research. Then, I will address accentism and the university as workplace. Finally, I will suggest ways to prepare for a wide range of accented speech in the workplace, with a primary focus on listeners instead of speakers. My hope is that, if spoken exchanges become easier, we will increase tolerance of otherness in university and other professional settings.

TECHNIQUES FOR THE REPRESENTATION OF L2 ENGLISH PRONUNCIATION

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This plenary highlights the importance of representing L2 English pronunciation in both research and practice and aims to survey the various techniques for representing it. Researchers, practitioners, and general L1 or L2 users are known to use different techniques. These are categorized here into three types: visual, spelling-based, and notation-based. Visual techniques enhance the overall impact of the visual content in representation. They include, among others, typography (e.g., bold type, italics, capitals, etc.), graphic notations (e.g., arrows, lines, dots, etc.), and visual displays of articulatory movements or acoustic features (e.g., articulations, f0 contours, etc.). Moreover, spelling-based techniques use orthographic conventions to represent pronunciation in a more

'practical' way than traditional spelling. They include the use of phonograms, keywords and the respelling of pronunciation drawing on the orthography of either the L2 (e.g., in some L1 dictionaries aimed at L1 speakers) or the learner's L1 (a practice often found among L2 learners). Finally, phonetic notation aims to represent pronunciation in L2 using consistent sound-symbol correspondences. Phonetic notation techniques include phonetic symbols and alphabets for either notation or transcription of L2 pronunciation.
The talk discusses the potential advantages of each of the different techniques and also compares them based on the criteria of accuracy in representing L2 pronunciation and ease of learning for L2 learners. The talk finishes by discussing the use of the International Phonetic Alphabet (IPA) in L2 English pronunciation teaching and learning. Recommendations for effectively introducing and using phonetic symbols in class, as well as combining them with other techniques to represent L2 pronunciation are also offered.

OPTIMIZING PRONUNCIATION INSTRUCTION

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Research syntheses have unequivocally demonstrated that pronunciation instruction works (Lee et al., 2015; Saito & Plonsky, 2019; Sakai & Moorman, 2018; Thomson et al., 2015), which means that whether instruction is effective is no longer an open question. Instead, contemporary intervention research has shifted to investigating how instruction can be optimized, asking targeted questions about the instructional features and conditions that potentially catalyze learning (e.g., single- vs. multi-talker perceptual training; Zhang et al., 2021). In this talk, I explore the concept of optimization, which I define as designing and validating approaches that produce appropriately large gains for diverse groups of learners.

I outline a four-pronged empirical approach. First, I describe the need for replication studies, which provide insight into the precision and stability of effects across distinct research samples and contexts. Second, I advocate for a systematic approach to study design. In such an approach, which is closely tied to the principles of replication, one or two variables are manipulated at a time, leading to a set of maximally comparable studies that lend insight into the impact of specific variables. I focus on instructional variables that researchers and practitioners can manipulate, such as the timing of instruction, its intensity, and its structure. Third, I explain the need to situate instruction within a longitudinal perspective to examine how robust and durable instructional gains are. I also touch upon the fact that a longitudinal perspective reminds us that instruction is one among a constellation of variables, including learner differences, that collectively and synergistically regulate development. Finally, I turn to adaptive approaches, where the surface form that instruction takes is highly variable and responsive to learner needs while the adaptive decision tree that generates the form (i.e., the blueprint for when and how to adapt the training) is fixed and replicable. I conclude with brief remarks on two important, yet in my view underprioritized dimensions of intervention research: examining learner engagement and feasibility of implementation.

WORKSHOPS

UNDERSTANDING TRUE CHANGE TRAJECTORIES IN SPEECH LEARNING

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Longitudinal research has an important place in the language sciences, including applied linguistics and applied pronunciation research. In an early statement on longitudinal research, Ortega and Iberri-Shea (2005) observed that most language learning "problems" are actually problems about time and timing. This seems especially true of pronunciation given that learners need to accumulate considerable experience with the language to develop accurate perceptual representations and motor routines. Barring a few notable exceptions (e.g., Derwing & Munro, 2013; Munro et al., 2024; Thomson et al., 2024), long-term and/or multi-wave longitudinal pronunciation studies are rare (Nagle, 2021). Thus, although more longitudinal studies have been published in recent years, they remain infrequent in the overall empirical landscape and may be limited in scope.

In this workshop, we will discuss the state of the art in longitudinal pronunciation research, focusing on three key aspects of longitudinal methods: the total length of the window of observation, the number of data points, and how data points are spaced throughout the observation window. All three variables can be meaningfully manipulated to gain insight into the rate and shape of pronunciation development in diverse learning contexts and learner populations, so we will reflect on how we can map these variables onto the beliefs we have about true change trajectories in pronunciation learning (e.g., Do we conceptualize the developmental process as mostly linear, curvilinear, or nonlinear?). We will also discuss practical barriers to doing longitudinal research, such as participant attrition and the substantial resources that longitudinal studies often require. By the end of the workshop, participants will have come up with an outline of a design for a longitudinal study in their research area.

HOW TO NAIL ENGLISH RHYTHM: A BLUEPRINT FOR INCREASED INTELLIGIBILITY

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Given the centrality of prosody to intelligibility (Hahn, 2004), it is critical to find appropriate models to teaching English prosodic skills to language learners. So far, due to ease of implementation and lack of a better model, TESOL teachers around the world have followed Prator's (1951) stress-timed model; namely, stress all content words in a phrase at regular time intervals. However, we have known for some time that English rhythm has a functional irregularity (Cauldwell, 2002; Wells, 2006). One or two syllables in a phrase are made more prominent to package meaning clearly for the listener, and the syllables/words in between are shortened, trimmed, or unstressed for the speaker to move faster from the first to the second prominent syllable/word. That is, "we compress our words with some intent" (Dickerson, 2020, p. 70). Based on this evidence, Dickerson proposed the Two-Peak Profile (Dickerson, 2015; Dickerson & Hahn, forthcoming), which guides learners towards increased intelligibility by helping them identify and produce one or two main stressed peaks (the Anchor and Primary Peaks) to communicate the semantic essence of the phrase.

Primary Peak rules, such as New vs. Old Information and Contrastive Stress, will not be new to most attendees as they have been around for some time. Although we will go over some of these rules briefly to illustrate the Two-Peak Profile, the main goal of this workshop is to focus on the Anchor Peak (the secondary main stress), which until recently seemed to be unpredictable. That is, we will focus on "NAILing down the Anchor" (Dickerson, 2015, p. 189; Dickerson & Hahn, forthcoming). We will apply prediction rules to excerpts from video-recorded TED-Talks and then listen to the talks to check our predictions. If you want to move beyond the era of stress-timed rhythm and learn how to NAIL English rhythm for teaching, this is the workshop for you. Pedagogical and research implications will be discussed at the end of the workshop.

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COMPUTER PROGRAMMING IN PHONETIC RESEARCH

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Recent advances in generative AI offer unprecedented opportunities, particularly for academic researchers who wish to utilize programming languages without the need for years of coding experience. While learning fundamental programming concepts and gaining a solid understanding of a given language is still necessary, achieving one's goals no longer requires the deep professional expertise that was essential just a few years ago.

This workshop aims to discuss which programming languages and libraries are particularly beneficial for phoneticians looking to expand their academic skill set. Technologies of particular interest include scripting in Praat (Boersma & Weenink, 2024), advanced usage of the R programming language (R Development Core Team, 2024) beyond its role as statistical software, and the Python programming language (Python Software Foundation, 2024). The workshop will explore how these technologies can enhance acoustic analysis of speech and open up entirely new avenues for phonetic research. Additionally, we will review major libraries that are especially useful for phoneticians, including "phonTools" (Barreda, 2023), "phonR" (McCloy, 2016), and "vowels" (Kendall & Thomas, 2022) for R, as well as "parselmouth" (Jadoul, Thompson, & De Boer, 2018) and "librosa" (McFee et al., 2015) for Python. Strategies for learning these technologies will also be outlined.

The workshop will further demonstrate how gaining proficiency in one programming language can help in understanding general coding concepts, rather than being confined to that specific language. This will be illustrated through the implementation of a 'for' loop in Praat, R, and Python. Finally, a practical coding demonstration will show how large language models can assist with automatic code generation, a feature particularly beneficial for scholars without professional programming experience, enabling them to write and troubleshoot code more efficiently.

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PARALLEL SESSIONS

AUDIOVISUAL PERCEPTUAL TRAINING OF THE L2 ENGLISH VOWEL FULLSET: EXPLORING THE TIME-COURSE OF A 10-SESSION HVPT

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This study juxtaposes cross-linguistic similarity with discrimination of retroflexes by multilinguals. The degree of perceived cross-linguistic similarity between the learner's L1 and L2 has been shown to mediate discrimination of L2 sounds (Cebrian 2022, Flege and Bohn 2021), but so far it has not been tested from a multilingual perspective. A review of the last 35 years of phonetic training research reveals that high-variability phonetic training (HVPT) effectively enhances L2 vowel perception and production (Sakai & Moorman, 2018; Thomson, 2018). HVPT using a vowel fullset is more effective than using smaller subsets (Nishi & Kewley-Port, 2008), and audiovisual methods outperform auditory-only approaches (Hazan et al., 2006). Yet, questions remain regarding the optimal training duration to maximize benefits. When learners show limited improvement, it is often unclear whether this is due to insufficient training duration or other contributing factors. Studies on vowel HVPT differ widely in the number of training sessions, ranging from shorter protocols (e.g. 3 sessions: Kartushina et al., 2015; 4 sessions: Mora et al., 2022; 5 sessions: Iverson & Evans, 2009; 6 sessions: Wei et al., 2016) to more extensive programs (e.g. 10 sessions: Aliaga-Garcia & Mora, 2009; 16-to-24-sessions: Wang & Munro, 2004; 20 sessions: Wong, 2016; 40 sessions: Thomson & Derwing, 2016). This variability in training duration has led to inconsistent outcomes, raising questions about how many sessions are necessary for observable improvements (Barriuso & Hayes-Harb, 2018; Kim & Webb, 2022; Mahdi & Mohsen, 2024) or when a point of saturation is reached (Bradlow, 2008). This study investigates the time-course of a 10-session audiovisual HVPT program (Tr-1 to Tr-10) targeting the fullset of English vowel monophthongs. It aims to explore different learning trajectories and examine the role of training duration to offer insights for instructional settings.

Thirty-two Spanish/Catalan advanced EFL learners (*Mage* = 22.3) completed ten one-hour audiovisual HVPT sessions over five weeks. The training focused on the identification of English RP monophthongs through exposure to 132-258 natural CVC words from 2 British English speakers per session. Participants were trained to recognize vowel categories within subsets (high-front: /**iː** ɪ e ɜː/; low: /æ ʌ ɑː ɒ/; high-back: /**ɔː** ʊ uː/) and received audiovisual feedback on categorization errors. Four distinct learning patterns emerged over the 10-session HVPT program: (i) consistent improvement across all sessions, (ii) fluctuating performance with mid-training reversals (e.g. plateaus around Tr-4/Tr-6), (iii) high accuracy with minimal progress due to ceiling performance from the start, and (iv) performance decline. These different trajectories underscore variability in learners' progress during HVPT, particularly in the timing of improvements, with some learners showing learning effects after Tr-1 and others only after Tr-3 or Tr-5. The findings offer insights into the optimal training duration and its implications for instructional settings.

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INVESTIGATING CONTRIBUTORY FACTORS TO INTELLIGIBILITY: THE CASE OF JAPANESE ACCENTED ENGLISH

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English is now regarded as a global language, and the number of non-native English speakers has increased exponentially (Burns, 2005; Galloway & Rose, 2015). As a result, English is spoken in many different ways (Rose & Galloway, 2019; Smith, 1992), raising the important question of what makes English speech intelligible in teaching and learning contexts.

Numerous studies have identified variables that influence intelligibility, including speakers' linguistic features (e.g., Jenkins, 2000) and listeners' familiarity with accented speech (e.g., Matsuura, 2007). Among these variables, pronunciation has received the most attention.

The primary purpose of this study is to investigate which pronunciation features of Japanese accented English contribute to intelligibility when the listeners are both native and non-native English speakers. Additionally, the study examines the influence of other factors, including listeners' familiarity with Japanese accented English, working memory, and the number of phonemes in the mispronounced words.

The experimental materials consisted of recordings of 112 English sentences read by a native Japanese speaker. These sentences were divided into two types: semantically meaningful and semantically nonsensical. Each sentence contained intentional mispronunciations of two nouns, involving vowel mispronunciations, consonant mispronunciations, and vowel epenthesis.

A total of 100 participants took part in the study, including 50 native and 50 non-native English speakers. Participants completed a transcription task, a questionnaire on their familiarity with different English accents, and a working memory assessment.

To determine which of the three mispronunciation categories—vowel, consonant, or vowel epenthesis—had the greatest effect on intelligibility, generalized linear mixed models were employed. Additional descriptive analyses were conducted to further explore specific pronunciation features affecting intelligibility. Furthermore, model comparisons were carried out to examine the impact of participants' familiarity with Japanese accented English, working memory, and the number of phonemes in the mispronounced words.

In this presentation, the findings of this study will be reported, and the implications for codifying intelligible Japanese accented English will be discussed.

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EXAMINING THE INFLUENCE OF PRONUNCIATION-FOCUSED TEACHER ASSOCIATIONS ON ENGLISH LANGUAGE TEACHERS' CAREERS AND BEYOND

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The Lithuanian vowel system is traditionally characterised as quadrangle consisting only of front and non-front (i.e., back) vowels (Girdenis, [2003] 2014 :224). Though recent studies indicate that, in female pronunciation of [ʌ], there is some closeness to the schwa-like vowel (Bakšienė et al., 2023: 16), the Standard Lithuanian vowel system does not contain schwa. In the field of English language teaching (ELT), Teacher Associations (TAs) play a crucial role in fostering professional development, knowledge sharing, and networking among educators (Motteram, 2016). Over the years, as the importance of pronunciation for our learners' communicative competence has become better understood and the endemic lack of teacher training in pronunciation pedagogy recognised (Murphy, 2017), TAs dedicated solely to pronunciation instruction have appeared. These organisations provide members with professional development opportunities, supplementing the limited (or absent) early career teacher training reported by many. However, while membership can provide a valuable opportunity for professional learning, evidence on how much, if any, of said CPD learning filters down into ELT classroom instruction is scant.

In an attempt to address this gap in research and ascertain whether or not membership of a pronunciation-focused TA can indeed have a positive impact on teachers, their lessons, and by extension, their students, the IATEFL Pronunciation SIG (PronSIG) committee invited its members to respond to a survey detailing how membership has impacted them personally and professionally; approximately 12 % of current members responded to the call for data (n=30). In the hope of gaining a broader perspective, this survey was also shared and completed by members in three additional pronunciation-focused teachers' associations (n=17): BrazTESOL PronSIG, TESOL SPLIS and CATESOL-TOP-IG. Once the questionnaire data had been gathered and analysed, focus group discussions and interviews were conducted with five IATEFL PronSIG members as well as five respondents from BrazTESOL PronSIG and TESOL SPLIS.

Overall, the findings demonstrate that membership of a pronunciation-focused TA can be highly beneficial for teachers. It provides opportunities for learning and consolidation of theoretical knowledge relating to pronunciation and phonology. It can also increase confidence and enable teachers to learn and adopt new in-class activities and techniques, widening their pronunciation teaching repertoire. In addition, the data revealed that membership facilitated a sense of community and belonging among members due to their common interest. This suggests that Teacher Associations can play a significant role in

English language teachers' careers, not just from a practical perspective, but also through access to a community of like-minded individuals in which teachers can feel comfortable to ask for help, seek out mentors, and have input from experts.

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STUDENTS' PRONUNCIATION-RELATED SELF-PERCEPTIONSAND TASK APPRAISALSAS MODERATORS OF TASK-SPECIFIC SPEAKING ANXIETY: THE CASE OF POLISH AND SPANISH ADVANCED EFL STUDENTS

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Interest in language anxiety (LA) has a history of over four decades, with a vast body of research showing its detrimental influence on both second language (L2) learning and performance. LA has been found to be one of the strongest predictors of L2 attainment, together with aptitude, motivation, and working memory (e.g., Teimouri et al., 2019), but as a construct, including its various types (e.g., speaking anxiety, pronunciation anxiety), has been most often examined as a stable, long-term trait or as an affective factor in the classroom, interacting with other components of learners' complex dynamic systems (Hiver & Al-Hoorie, 2020). However, task-specific anxiety, which "may impair task performance due to its narrowing effects on thought-action repertoire" (Li & Dewaele, 2024, p. 85) can be detrimental to performance, particularly in more complex speaking tasks, where learners' limited attentional resources make it difficult to attend to accuracy (Skehan, 1996).

In this paper we report on the results of an on-going mixed-methods study conducted among Polish (n=73) and Spanish (n=79) young adult proficient EFL learners. We elicited individual oral productions in English through a picture story-telling task, after which we administered a task-performance questionnaire, addressing participants' evaluation of task difficulty, involved effort, enjoyment, and satisfaction from performance. The learners also completed linguistic background and language anxiety questionnaires at home, which included questions about their pronunciation-related self-perceptions, such as pronunciation learning self-efficacy, pronunciation-based fear of negative evaluation, and

self-assessed pronunciation level. The gathered data were used to answer the following questions on task-specific speaking anxiety: (1) How did the participants perceive the picture-story telling task? (2) How is task-specific anxiety related to trait speaking anxiety and pronunciation anxiety? (3) Which variables – students' pronunciation-related self-perceptions or task appraisals – were stronger mediators of task-specific anxiety? (4) Did the Polish and Spanish students differ in the pronunciation-related self-perceptions and task appraisals? (5) Did the predictive strength of the moderating variables vary depending upon the L1 of the students?

The quantitative data, which is currently under analysis, is supplemented with qualitative data gathered via interviews conducted among highly anxious students directly after task performance and the task appraisal survey. Pedagogical implications will be discussed from the perspective of pronunciation task design and the more pronunciation-related trait-like moderators of task-specific speaking anxiety.

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ATTENTION DISTRIBUTION IN TASK REPETITION: ANALYZING TRANSCRIPTION AND METACOGNITIVE REFLECTION TASKS AS A TOOL FOR PROTOCOL DATA COLLECTION

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Recent research in L2 speech development has explored task repetition's potential to tap into learners' attentional resources and optimize their oral production. Ellis et al. (2020) identified three types of task repetition: exact repetition (identical in content and procedure), procedural repetition (same task type, different content), and content repetition (same content, different task).

Exact repetition has yielded positive results in helping students improve their L2 oral production in terms of complexity, accuracy, and fluency (CAF) measures in numerous studies extending back over two decades (Gass et al., 1999; Bygate, 2001; Ahmadian & Tavakoli, 2011; Fukuta, 2016; Kobayashi, 2022). More recent research has investigated whether task repetition facilitates internalization of linguistic features. Jung, Kim, and Murphy (2017) found that auditory priming, regardless of repetition type, enhanced ESL learners' lexical stress production. Takimoto (2012) showed that both exact and procedural

repetition helped learners internalize polite request forms, with exact repetition proving most effective. These studies often reference Levelt's speech production model (2012), noting that task repetition allows learners to allocate more attention to language production and monitoring and less to conceptualization. However, few studies have collected protocol data to confirm these assumptions (e.g., Fukuta, 2016), likely due to the time-consuming nature of retrospective interviews.

This study aimed to explore fluctuations in EFL learners' attentional resources during repeated tasks and assess the feasibility of using a metacognitive reflection task for protocol data collection.

The participants were 20 teenage Spanish-L1 EFL learners in a B1-level course at a private secondary school in Argentina. After receiving instruction on contrastive stress, they completed three identical picture-comparison tasks at three-day intervals. After recording themselves performing the tasks, they were provided with a worksheet including transcription and metacognitive reflection tasks. They transcribed their speech, identified pauses, explained breakdowns, and analyzed their use of contrastive stress.

Speech samples were analyzed for the number and duration of disruptive pauses (silent and filled, over 0.400 ms). Two raters independently reviewed transcriptions and protocol data, categorizing findings using Levelt's model: conceptualization, lexical encoding, syntactic encoding, phonological encoding, and monitoring.

Preliminary results showed that task repetition improved fluency, but participants' attention remained on conceptualization, indicating a focus on content organization over linguistic features like contrastive stress. The metacognitive reflection task proved effective, with high interrater reliability and strong correspondence with speech data. Findings will be discussed in light of recent research, and pedagogical implications and research recommendations will be addressed.

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TEACHING THE USE OF CONTRASTIVE NUCLEAR STRESS IN SECONDARY EFL CLASSES: EVALUATING THE IMPACT OF THE PFIAP PEDAGOGICAL MODEL

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In recent years, L2 pronunciation teaching has increasingly prioritized intelligibility over native-like pronunciation or accent reduction (Derwing & Munro, 2009, 2015; Levis, 2005, 2018, 2023). Intelligibility is now recognized as a crucial goal in communicative competence, making it the focal point of modern pronunciation instruction (Saito, 2021).
Among the key prosodic features for intelligibility, contrastive nuclear stress plays an important role in marking new and important information. Many Spanish-speaking learners struggle with this feature, leading to reduced intelligibility (Field, 2005; Kang et al., 2010). Levis (2023) emphasized that lower-proficiency learners often face particular challenges when learning contrastive stress, requiring targeted instructional strategies to improve their ability to communicate effectively. His insights further underline the need for pedagogical approaches that focus on suprasegmental features, which are crucial for intelligibility.
This study evaluates the effectiveness of the PFIAP pedagogical model (Luchini, 2023), aligned with the Intelligibility Principle, in teaching learners to correctly place contrastive nuclear stress. The PFIAP model consists of five stages—Perception, Focusing, Internalization, Application, and Production—designed to progressively guide students from awareness of stress patterns through practice and application in communicative tasks.
Participants in this study were 36 teenage students (18 in the experimental group and 18 in the control group), all of whom were taking a B1-level EFL course at a private secondary school in Argentina. The experimental group received pronunciation instruction following the PFIAP model for one week, targeting the use of contrastive stress in picture comparison tasks, while the control group received no instruction. A pre-test consisting of a picture comparison task served as the initial data collection instrument. The experimental group received three focused-instruction sessions of two hours followed by an immediate post-test. The control group completed the post-test after the same amount of time. Transcriptions of the participants' speech samples were analyzed for nuclear stress placement accuracy percentages. Paired-samples T-tests were carried out to compare the pre- and post-tests in each group.
Preliminary findings indicate that, 10 of the 18 students in the experimental group showed significant improvement in nuclear stress placement. In contrast, students in the control group showed no improvement. These findings align with recent research showing the benefits of focusing on suprasegmental features in L2 instruction. Pedagogical recommendations will be offered covering how the PFIAP model can be implemented to develop greater control over contrastive stress to enhance students' communicative competence.

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COMPARATIVE ANALYSIS OF PHONEMIC TRANSCRIPTION ERRORS BY THE LITHUANIAN AND SPANISH LEARNERS OF ENGLISH

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University students taking a course in English phonetics and phonology often struggle with phonemic transcription (cf. Crookston 2001) and consistent use of IPA symbols. The latter, however, can enhance pronunciation pattern detection (cf. Bryła-Cruz 2022).
Transcription errors have been addressed from different perspectives. They can be grouped according to the wrong concept of pronunciation resulting from native and target language interference, developmental or language variety interference, ability to use phoneme inventory, and unawareness of regularities (Sönning 2013). Lintunen (1999) sees transcription errors as a threefold system: errors in the sound symbols (vowels and consonants), stress, and other errors. The former group is further subdivided into system (incorrect and nonphonemic symbols) and sound (quantity, quality, and other) errors. The present study employs a combination of the two classifications.

Research on transcription error analysis has been conducted with learners having different mother-tongue backgrounds, e.g. Egyptian (Mahfouz 2016, 2017), Finish (Lintunen 1999, 2005), Iraqi (Panda and Mahapatra 2020), Spanish (Grasso 2017), etc. Phonemic transcription is believed to be of particular value for learners whose native language has a close grapheme-phoneme relationship (Lintunen 2005). Lithuanian and Spanish are known for this feature, which motivated the choice of the languages for the present study to investigate phonemic transcription errors made by non-native English students at Vilnius University (Lithuania) and Complutense University of Madrid (Spain). The data consist of segmental-level transcriptions of a short narrative passage from Lecumberri and Maidment (2000, p. 78) performed by 19 Spanish and 20 Lithuanian undergraduate students enrolled in an English Phonetics course. The study aims to compare the transcribed passages, focusing on specific error types and learners' native language. Previous studies report on the transcription error types mirroring the ones in pronunciation (Lintunen 1999). As Lithuanian and Spanish learners of English are known to face different challenges related to English pronunciation, it can be hypothesised that the differences might be observable in the transcriptions. The results reached using comparative methods report on the established similarities and differences.

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DURATION OF STRESSED AND UNSTRESSED SYLLABLES IN BRITISH AND AMERICAN POLITICAL DEBATES

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Spontaneous speech represents a challenge for researchers at a number of levels. First, it may be very demanding to extract meaningful data because the sound shapes of individual words pronounced in the "jungle" of spontaneous speech may very much differ from the canonical forms (Cauldwell, 2013), making it difficult to even segment speech. Second, "language rules" which are formulated based on controlled speech materials may not hold in spontaneous speech. This study re-examines one of these rules, namely concerning lexical stress.

The primary correlate of lexical stress in English is traditionally believed to be duration (e.g., Crystal & House, 1988; Eriksson & Heldner, 2015). However, these findings have been typically reported for speech material which is more or less artificial: mostly isolated words or read phrases, but even what is called spontaneous speech by Eriksson and Heldner (2015) is a semi-spontaneous interview with the experimenter, recorded in a sound-treated studio, without any real-life communicative intent. The objective of this study is to see whether temporal differences between stressed and unstressed syllables can be observed in truly spontaneous speech, delivered with a clearly defined audience in the mind of the speakers.

We analysed recordings of connected speech of eight British (4F, Southern British English) and eight American (4F, General American) speakers, engaging in political debates (Westminster Hour and C-SPAN, respectively). We used extracts of ca. 200 words per speaker (corresponding to 60–100 seconds of speech). Speech sound boundaries were manually adjusted in Praat (Boersma & Weenink, 2024) based on phonetically defined criteria (Machač & Skarnitzl, 2009), and the realization of a syllable as stressed or unstressed was determined by listening to actual realizations; this included identifying deaccented words, as well as stress placed on less likely words. Naturally, known effects on vowel duration – phonological vowel length, the voicing characteristics of the following consonant, phrase-final deceleration – were taken into account when comparing the durations of stressed and unstressed vowels.

Generally, the results of the study confirm the traditionally reported tendencies: as shown in Figure 1, stressed vowels are indeed longer in duration than unstressed vowels in connected speech of both examined varieties of English. Of course, this overall tendency is modulated by the effect of the above-mentioned parameters, which will be discussed in more detail in the presentation.

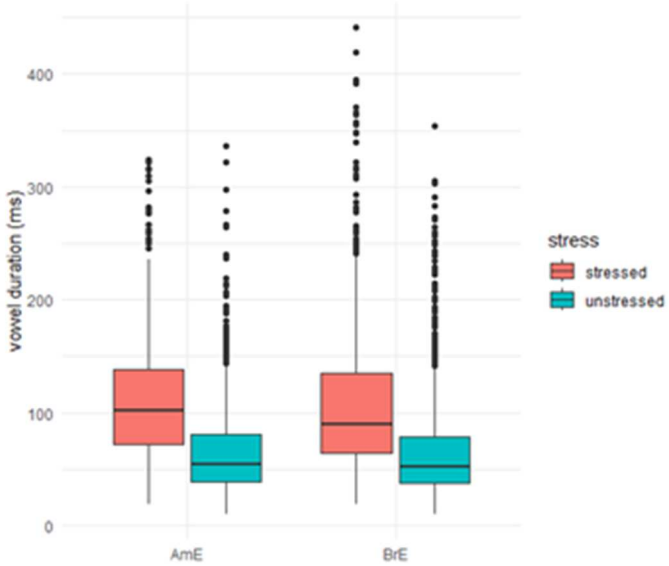

Figure 1. Duration of stressed and unstressed vowels in British and American English.

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INFLUENCE OF ACCENTED SPEECH ON COGNITIVE EFFORT DURING SIMULTANEOUS INTERPRETING – AN EYE-TRACKING STUDY

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Simultaneous interpreting is a highly complex process whose success rests on many factors, including speech rate, information density, syntactic complexity, and sound quality (Gerver, 1976). One of the largely underresearched factors potentially affecting this process is foreign accent which is known to hamper speech comprehension (van Engen & Peelle, 2015). However, there is still scarce evidence of the impact of accented speech on cognitive effort during interpreting. The present study aims to fill this void with an interpreting task performed by experienced interpreters and trainees subjected to accented English. Pupillometry is used as an objective physiological measure of cognitive effort.

23 interpreting trainees and 27 professional interpreters took part in the study. The procedure consisted in simultaneous interpretation of five short speeches delivered in English by different speakers. This resulted in a mixed, 5x5x2 design with 5 trials of 5 accents interpreted by two independent participant groups. The speeches were simple in subject matter and did not contain specialized vocabulary to ensure comparability. Each speaker had a different accent in English, with only one being native (American English). The foreign accents selected for the experiment differed phonetically and phonologically from one another and represented different familiarity levels for the target groups. These included: Polish, Italian, Swedish and Mandarin.
We used an EyeLink Portable Duo eye-tracker with a 1000 Hz sampling frequency that reported pupil size data for both eyes. After extraction, the data were preprocessed and analyzed statistically using R. In addition, we checked language proficiency (Michigan Proficiency Test) and information on the age and years of experience on the interpreting market of each participant.
The results show that the cognitive effort associated with accented speech processing, as measured by proportional pupil size relative to baseline, is greater in the case of trainees throughout the trial. Furthermore, only trainees seem to be sensitive to the type of accented speech applied, with a particular indication of Italian and, paradoxically, American accents as the most difficult. At the same time, both trainees and professionals show a similar pupil activation pattern in each trial, which suggests the presence of a generalized 'cognitive rhythm' pertaining to the interpreting task. Finally, the results point to expertise rather than language proficiency as a major factor in boosting cognitive resource management in interpreting.

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WHAT THEY HEAR AND HOW THEY LISTEN – INSIGHTS INTO L2 STUDENTS' LISTENING PROBLEMS

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Recent pedagogic literature on L2 listening has stressed bottom-up approaches which explicitly and directly concentrate on the phonological properties of spoken texts and speech segmentation (Field, 2008; Saito et al., 2023; Vafaee, & Suzuki, 2019; Vandergrift, 2004). Expertise in listening skills encompasses confidence in dealing with the speech signal and learners should be instructed how to attain automatic and accurate decoding (as is the case in L1) and not just how to make use of the context to compensate for what

they have failed to decode. Also, a good deal of discourse around ESL listening has suggested that a greater emphasis should be placed on the *process* of listening rather than the *product*. The main objective of the present study is to address the issue raised by Field (2008), who states that listening exercises should be diagnostic and instead of trying to obtain correct answers, the teacher should try to identify problems in comprehension and provide remedial instruction.

In the present study 58 L2 (Polish) learners were asked to transcribe an extract of non-scripted speech (321 words) delivered by an English native speaker. Importantly, dictation is reported to be the most widely used integrative testing technique which allows to assess performance at phonological, syntactic and semantic stages of the speech perception process without divorcing it from its naturalistic context, that is without preventing top-down processing (Flowerdew & Miller, 2005). Qualitative examination of transcription errors provided a valuable insight into students' misunderstandings and enabled the identification of the listening processes which proved most challenging. They include phoneme recognition, word segmentation, recognizing unknown words (including proper names) and top-down inferences. The study has important pedagogical implications which can be used by teachers to guide their students in the development of listening skills both in and out of the classroom.

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LEARNING ENGLISH THROUGH A CALL SYSTEM WITH AUTOMATIC SPEECH RECOGNITION: INSIGHTS FROM SPEAKING PRACTICE AND TEST DATA

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Computer-Assisted Language Learning (CALL) systems equipped with Automatic Speech Recognition (ASR) technology are becoming increasingly popular because of their potential for allowing speaking practice. The instant feedback from ASR makes language learning more realistic and can be seen as a meaningful addition to traditional class practice (Cucchiarini et al., 2009; McCrocklin et al., 2016).

Systems equipped with logging capabilities can provide more detailed information to track the learning process. In previous research (Bashori et al., 2022; Dong et al., 2022), we employed an ASR-based CALL system (Strik et al., 2021) and used a three-step evaluation method: pretest, free practice, posttest. Annotations of pre- and posttest data on accentedness and comprehensibility by experts (Munro et al., 1995 & 2020) revealed high reliability: ICC (accentedness, pre = .989, post = .987; comprehensibility, pre = .980, post = .976). In this study, we investigated the relationship between practice and test data to gain insight into how practice can affect proficiency. We combined the practice and pre-, post-test data, and divided the users into two groups according to their practice time. We selected 4 prompts that were uttered at least twice by our 33 users. For each prompt, we had 4 audios (pretest, first-time-practice, last-time-practice and posttest), resulting in 528 utterances. The experiment results show that practice time and progress are positively correlated. For a more detailed tracking of progress, we extracted 106 features for each utterance: 88 with eGeMAPS (Eyben et al., 2015); 15 (pitch, loudness, energy etc.) through Praat (Boersma et al., 2013); furthermore goodness of pronunciation (Witt et al., 2000), log posterior probability, and speech rate. We used the pre-test data as a baseline and applied LDA binary classification to these 106 features. The classification results of pre vs. first-time-practice, pre vs. last-time-practice and pre vs. post show significant differences between the pre-test, practice and post-test data, which indicates the progress of CALL users. The classification accuracy has a trend of rising first and then falling. To better understand this progress, we applied recursive feature elimination (Guyon et al., 2002) to obtain an importance ranking of the 106 features for the pre and post-test classifications. Loudness and intensity are the most distinctive features.

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PERCEIVED EASE OF UNDERSTANDING IN FRENCH-ACCENTED ACADEMIC DISCOURSE: AND THE CHIEF CULPRITS ARE…?

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Many universities in non-English-speaking countries use English-Medium Instruction courses (EMI), which are often taught by non-native speakers who often receive no specific training (Jiménez Muñoz & González-Álvarez, 2020). Foreign-accented speech impacts intelligibility (Kang et al., 2018), and increases the cognitive load on the part of learners, it can also affect motivation (Roussel et al., 2017) and learning (Roussel et al; 2022), and many studies have shown that accented English often leads to negative judgements of factors such as credibility (Stocker, 2017).

The aim of this study is to better understand which pronunciation features in French-accented academic English discourse most affect intelligibility and comprehensibility, or perceived ease of understanding. This is a partial replication study of Nagle and colleagues' (2019) study, where participants (N=18) used Idiodynamic Software's Anion Variable Tester to indicate in real time while listening to a recording of foreign-accented speech, how easy or difficult to understand they perceived the speaker to be. This task was recorded with a screen capture tool, and the participants then carried out a stimulated recall interview, where they explained what they thought had impeded their understanding of the text and why.

Two four-minute extracts were taken from two lectures given in English by French lecturers in a French university, and the participants were international students with at least B2 (CEFRL) English. This study is concerned primarily with pronunciation, but also allows for the identification of other variables which may affect comprehensibility. Prosodic features of certain stretches of the two excerpts were modified to try to ascertain whether these features had an effect on the participants. The modifications were carried out using PSOLA as implemented in Praat. The aim was to either "improve" or "deteriorate" extended stretches of speech. We modified features like phrasing, phrasal prominence, lexical stress and vowel reduction.

We analysed both the quantitative data (the number and places where the participants clicked) and the qualitative data (the interviews). The quantitative data revealed a complex picture, with some clear trends. According to the participants' comments during the

interviews, the most frequent cause of comprehension problems was vowel quality, followed by various prosody issues, especially lexical stress. Interview data also highlighted problems such as speed, rhythm, and prominence.
We hope that the results of this research will help to improve resources and training programmes for EMI lecturers and students, and also colleagues who present their research in English at international conferences.

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GENERATIONS OF NEW ZEALAND ENGLISH: AGE AND ANGLICISATION IN THE PRONUNCIATION OF TE REO MĀORI LOANWORDS

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This research explores the evolving impact of te reo Māori on New Zealand English (NZE) through intergenerational differences in loanword pronunciation. Since the revitalization of te reo Māori in the 1980s, four generations of New Zealanders have grown up with varying levels of exposure to the Māori language, resulting in different sociolinguistic attitudes and levels of familiarity with the language (Benton, 2015). Present-day NZE is increasingly influenced by te reo Māori media and education, evidenced by the steadily increasing number of loanwords present in the NZE lexicon (Calude, Miller & Pagel, 2020; Macalister, 2006). These loanwords have become a point of contention

between older and younger generations as sociopolitical discussions of 'correct' pronunciation address the historical anglicisation of te reo Māori words in NZE (Stubbe & Holmes, 2000).

Using a combination of qualitative interviews and quantitative analysis, this study investigates how Baby Boomers, Generation X, Millennials, and Generation Z choose to incorporate te reo Māori loanwords into spoken NZE. Data was collected through interviews with sixteen monolingual native speakers of NZE, with four participants from each generation. Participants first responded to ten qualitative interview questions to elicit spontaneous production of loanword instances, followed by a set elicitation task including ten common te reo Māori loanwords. Each loanword instance was categorised as either anglicised or Māori pronunciation, with further analysis of loanwords displaying variable phonetic production.

The results revealed that older generations, particularly Baby Boomers, tend to anglicize te reo Māori loanwords while younger generations display much higher rates of Māori pronunciation. Educational background and occupation were also found to be significant factors, with participants involved in educational or governmental professions being more likely to use Māori pronunciation, regardless of age. The findings highlight the growing influence of te reo Māori on NZE lexicon and phonology, particularly among younger speakers who have had greater exposure through media, education, and social discourse. The study contributes to the understanding of language contact in post-colonial settings, demonstrating how indigenous language revitalization efforts have reshaped the phonological landscape of NZE. The data also raises important questions about the role of implicit language learning and social identity in shaping pronunciation choice.

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THE PRONUNCIATION OF ENGLISH SILENT CONSONANTS BY L1 SPANISH CLIL AND EFL PRIMARY STUDENTS

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There is ample evidence that graphemic information is activated during speaking activity (Saletta, Goffman & Brentari, 2016; Ranbom & Connine, 2011). Specifically, silent letters have been described as a frequent cause of mispronunciation in L2 speech (Bassetti & Atkinson, 2015; Mouquet & Mairano, 2023), also in the case of Spanish L2 learners (Charpetier-Jimenez, 2022; Mompean & Fouz-Gonzalez, 2016) whose L1 is highly transparent, exhibiting strong grapheme-to-phoneme associations. Interestingly, teaching programmes which bring along an increase of exposure to English such as Content and Language Integrated Learning (CLIL) could have an impact on the development of phonological acquisition. In fact, recent work with young L2 learners in bilingual programmes has suggested that they can successfully activate graphemic information from both L1 and L2 orthographic systems during reading (Hevia-Tuero, Incera & Suarez-Coalla, 2022). The present study investigates the pronunciation of English silent consonants by young Spanish learners in two differentiated English learning programmes.

235 Spanish primary students aged between 8 and 10 performed a read aloud task of 12 English words containing exocentric silent letters (*comb*, *lamb*, *knife*, *knee*, *listen*, *fasten*, *walk*, *half*, *scissors* and *scent*). Accurate identifications of correct and incorrect pronunciations were calculated for 108 learners in a traditional EFL 3h/week programme and 127 learners who received such input in addition to approximately 200 hours of English medium instructed sessions of subjects such as Mathematics, Science or Social Science. We also computed differences for male/female participants. Qualitative explorations of pronunciation errors were also conducted by two researchers.

Results indicated that the average accuracy of correct pronunciations of the silent consonants was only at 35.6%. Both groups scored similarly, showing no significant differences between their overall performance. Differences were found between the pronunciation of the silent consonants, silent B (42.5%), silent C (45.5%) or silent W (50.75) being pronounced as such more often than silent L (13%) or silent K (25%). In addition, significant differences between the word pairs were found in the cases of silent T and silent C: *listen* being pronounced correctly at 74.5% while *fasten* only correctly identified at 4% and silent C being correctly pronounced at 56% in *scissors* and 33.5% in *scent*. Silent K was the only grapheme which produced a difference between the two groups examined: the CLIL group pronounced a silent K significantly more often (35%) than the EFL group (14%), also in favour of the CLIL boys. Results will be discussed in the light of the moderate advantages of CLIL as for pronunciation and the impact of word frequency on pronunciation accuracy.

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THE IMPACT OF FOREIGN-ACCENTEDNESS ON GRAMMATICALITY PERCEPTION AMONG POLISH LEARNERS OF L3/LN NORWEGIAN AND NATIVE NORWEGIAN SPEAKERS

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Previous research has shown that native listeners prefer accents similar to their own (Flege, 1999, Lev-Ari & Keysar, 2010, Lorenzoni et al., 2024) and that familiarity with an accent influences the perception of both grammaticality and intelligibility. This highlights the interplay of linguistic familiarity and proficiency in shaping non-native speech perception. The ratings of perceived global foreign accent have been widely applied in second language acquisition research (e.g. Piske et al. 2001), yet the role of accentedness has not been investigated in relation to acceptability judgements in multilingual acquisition. This paper aims to fill in this research void. The study examines how Polish learners of L3/Ln Norwegian and native Norwegian speakers rate grammaticality of Norwegian sentences presented to them auditorily with Norwegian, Polish, and English accents. To this end, we recorded grammatical (N = 57)

and ungrammatical (N = 57) sentences in Norwegian in three different conditions as Polish-accented, Norwegian-accented, and English-accented (following a pilot accent rating study for the selection of speakers). An online experiment was conducted in Qualtrics with counter-balanced language blocks and randomized stimuli within each block. The study involved a self-paced listening to sentence items presented auditorily and performing an acceptability judgment task. The participants included Polish learners (N = 55) and Norwegian native speakers (N = 28) who listened to prerecorded Norwegian sentence items and were asked to evaluate them for grammaticality on a 7-point Likert scale (1 – ungrammatical, 7 – grammatical).

Mixed-effects ordinal logistic regression modeling was utilized for significance testing. This was followed by post-hoc pairwise comparisons. Our results demonstrate significant main effects of accent and grammaticality, as well as key interactions between these variables, particularly for the Norwegian accent. As expected, Norwegian-accented sentences were rated higher than foreign-accented items. Native Norwegian listeners rated Norwegian-accented sentences significantly higher than Polish learners did. Within the Norwegian-accented sentences, L3/Ln learners rated ungrammatical sentences higher, but grammatical sentences lower than native listeners. This trend persisted for Polish-accented ungrammatical sentences, where learners provided higher ratings than the natives. The findings suggest higher acceptance of grammaticality of the Norwegian native accent in both rater groups, as well as the acceptance of the learner's native accent by the learner group. In addition to perceived grammaticality, further research should investigate the interplay between foreign-accentedness and perceived credibility of the speaker.

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PRONUNCIATION LEARNING IN THE HUNGARIAN SECONDARY EDUCATIONAL CONTEXT: A QUALITATIVE INTERVENTION STUDY

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There are several individual difference variables that might impact the pronunciation development of secondary school language learners. Language learning aptitude, motivation, learning beliefs, language anxiety, and learning style preferences can all influence the learning process. While research has been conducted on several of these areas (e.g., Baker Smemoe & Haslam, 2017; Baran-Łucarz, 2017; Pawlak et al., 2015; Szyszka, 2017), it is difficult to differentiate between the importance of these variables compared to one another. The studies mentioned above all point to the conclusion that individual differences can have varying roles in terms of pronunciation learning depending on the learners as well as the context.

While in the Hungarian educational context, there are no studies on learners' pronunciation development up to this date, two studies focusing on other areas of language learning briefly touch up on learners' goals and motivation related to pronunciation (Kontráné Hegybíró & Csizér, 2011; Nikolov, 2003). The findings of these two papers reveal that Hungarian learners of English are interested in pronunciation to some extent, but further research would be necessary to get an insight into the way learners' beliefs and other individual difference variables influence Hungarian learners' pronunciation development. For this reason, a qualitative intervention study was designed with the aim of getting a deeper insight into Hungarian secondary school learners' pronunciation learning process.

The research involved seven language learners from a group of students learning English in a secondary school and the teacher of the group. The learners were in 9th grade at the time of data collection and approximately at B2 level according to the CEFR. Their pronunciation development was observed for a two-month period, during which they learnt about stress placement in the case of pre-stressed suffixes, and about various letter-to-sound rules that can cause issues for Hungarian learners. Data was collected through pre- and post-intervention pronunciation tests, lesson observations and interviews with both the learners and their teacher.

The preliminary results of the pronunciation tests showcase that the learners improved by 10% in case of stress placement, and by 8% in case of the letter-to-sound rules. This may seem insubstantial, however, learners scored 81.5% on the pre-test alone. Interestingly, the most improvement could be seen (22% across features) in case of a learner who was not the most active during the lessons. Learners who expressed concerns about their pronunciation in class showed development around 11%.

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MOBILE-ASSISTED PRONUNCIATION TRAINING (MAPT): THE DYNAMIC INTERPLAY OF SUPRASEGMENTALS, PERCEPTION, PRODUCTION AND INDIVIDUAL DIFFERENCES

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Mobile-Assisted Pronunciation Training (MAPT) allows for learners to practice and receive feedback on their pronunciation in a portable, comfortable, and tireless manner (Kaiser, 2018; Walesiak, 2021). While engagement in MAPT has demonstrated pronunciation improvement across diverse learner populations (e.g., Fouz Gonzales, 2020; Hirschi et al., 2020), the suitability of MAPT for suprasegmental features, such as lexical stress, prominence, and rhythm, as well as the role of individual differences such as motivation and acceptance, has yet to be fully explored. To address this gap, this study investigates the impact of a novel MAPT program on English pronunciation skills focusing on suprasegmental features and including its interplay with the individual differences of motivation and technology acceptance.

A MAPT program was developed with instantaneous feedback system that contained twenty-eight intelligibility-centric lessons on segmental contrasts, lexical stress, rhythm, and features of discourse intonation (Levis, 2020). University-level L1 Spanish learners of English in Mexico (N = 122) were asked to complete the program over three weeks which included a pre-, post-, and delayed posttest and were accompanied by individual difference

questionnaires. Linear and logistic mixed effects models of perception and production tasks indicated an improvement in intelligibility (p = .003, d =.60) and comprehensibility (p = .011, d = .09), and perception of lexical stress (p = .002, d = .43). However, suprasegmental features could not be generalized to spontaneous speech. When interpreted with learner comments, these results suggest that stress and fluency features require more extensive and contextualized treatment that may be difficult in MAPT contexts.

The study also found that technology acceptance and motivational factors related to social influence to use MAPT were important for program completion. However, these same social factors, along with the participants' expectations of effort required to engage in MAPT, were also associated with less task effort. None of the individual differences measured were associated with learning outcomes, suggesting that individuals may adjust their engagement in MAPT according to their pre-conceived disposition towards MAPT. Taken together, these results support the use of mobile devices for enhancing L2 pronunciation and suggest that social factors may need to be considered when working with MAPT. Implications are provided for optimizing the use of MAPT relevant to teachers and researchers and focus on the consideration of learner individual differences.

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THE EFFECT OF CLIL AND GENDER ON NATIVE AND NON-NATIVE ENGLISH ACCENT ATTITUDES IN PRIMARY EDUCATION LEARNERS

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Accent is an important component of identity construction (Moyer, 2013). As such, it contributes to perceptions about ourselves and other speakers (Morgan, 1997). Currently, English non-native accent is experiencing two opposing forces: social, psychological and

communicative stigma (Birney et al., 2020; Gluszek & Dovidio, 2010) versus the compelling need to recognize it as a descriptor of International English (Rose & Galloway, 2019). Hence, ambivalent attitudes can be found among L2 learners, who can express that they wish to achieve native-like accent and pronunciation (Nowacka, 2012) while they can also exhibiting high tolerance for non-native accents (Gómez-Lacabex & Roothooft, 2023). The present study explores the attitudes of a group of young learners towards English native and non-native accent with a focus on the potential role of additional exposure to English through CLIL instruction and gender.

A total of 311 primary education learners aged 7-10 participated in this study (171 CLIL, 140 non-CLIL). A 16-item questionnaire employing a 5-point Likert scale was used to explore learners' attitudes towards native and non-native accents in English. An exploratory factor analysis revealed that the scale had three underlying factors: (1) negative communicative effects of non-native English accents, such as irritation or unintelligibility, (2) tolerance of non-native accents in English, and (3) preference for native accents in English.

Descriptive statistics showed that CLIL, non-CLIL, male, and female samples displayed a low to medium (2-3) level of negative communicative effects of non-native English accents, a medium to high (3-4) tolerance for non-native accents in English, a medium (≈3) preference for native accents in English. Results from the t-test revealed no significant differences for any of the three factors analyzed ($p > .05$) between the CLIL and non-CLIL samples. With the exception of the CLIL sample significantly outscoring their non-CLIL counterparts in a single item regarding their perception of their own non-native English accent ($p < .001$; Bonferroni corrected $p = .002$). Regarding differences between male and female pupils, no differences were found for any of the variables analysed. These results imply that increased exposure to English through CLIL does not result in differences in accent attitudes, but it may impact the recognition of one's own non-native-accented speech, while gender does not exert any effect at these ages.

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CROSS-LANGUAGE SEMANTIC ACTIVATION OF PHONOLOGICAL HOMOPHONES AMONG NATIVE POLISH SPEAKERS IN L2 ENGLISH

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This study investigates the cross-language semantic activation of phonological homophones in native Polish speakers with English as a second language (L2). While interlingual homophones have been extensively studied in other language pairs (Friesen et al., 2020; Van Assche, 2020; Friesen and Jared, 2012), research on phonological homophones between Polish and English is comparatively limited, particularly among

adults. This reveals a gap in our understanding of how native Polish speakers process phonological similarities in L2 English. To address this gap, the current study explores how native Polish speakers process interlingual homophones—such as *szop* (Polish) and *shop* (English)—during reading tasks.
This study use an experimental design adapted from Friesen and Jared (2012) to examine the effects of a supposed shared phonology among interlingual homophones. Participants are presented with a time-pressured categorization task of Polish and English interlingual homophones and control words. It is hypothesized that accuracy and response times reflect the degree to which interlingual homophones foster semantic activation across languages on the basis of a shared phonology (Friesen and Jared, 2012). The current study sheds new light on the interaction of interlingual homophones on cross-language semantic activation among native Polish speakers with L2 English.

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THE DIFFERENCES BETWEEN SL. "HEJ" AND EN. "HEY" OR HOW CONTRASTIVE PHONETICS CAN BE USEFUL FOR THE UNDERSTANDING OF PHONOLOGICAL PROCESSES IN ENGLISH

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In order to pronounce the English word "hey" (="hay") and the Slovene word "hej" 'entirely correctly', it is not enough to 'know' that the coda in the English word "hey" consists of a falling diphthong in which the first element, i.e. the starting point, is the strongest part of the coda, and the second element is the glide towards /ɪ/ rarely reaching /ɪ/, and that the coda in the Slovene word "hej" consists of two separate phonemes (i.e. the vowel /e/ and the consonant /j/). One must also 'understand' the difference. Understanding the difference can be achieved also by understanding what goes on in the Slovene phonology first, and then by systematically contrasting the phonologies of both languages, Slovene and English, through the experiential learning of distinctive features of phonemes (VPM) and of the phonological processes related to them.
The present paper wishes to show and explain the usefulness of employing contrastive phonetics - while shifting focus from articulation to perception - in helping non-native speakers of English 'understand' phonological processes in the pronunciation of English.

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FREE ONLINE MATERIAL TO ENHANCE LISTENING COMPREHENSION AND AWARENESS OF NON-NATIVE ENGLISH ACCENTS: SOME BACKGROUND RESEARCH

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Research has highlighted the lack of teaching materials to introduce global Englishes (Aryadoust, 2023; Kawashima, 2018; Rose & Galloway, 2019; Tsang, 2019). Moreover, it

has emphasized the pivotal role of awareness-raising activities in preventing learners from deprecating non-native English accents (Galloway & Rose, 2014, 2018; Kawashima, 2023). To address these challenges, the presenter has developed an online resource, *Listening Practice in Real English* (https://www.listen-real-english.com/), where users can learn about the current state of English use and users and practice listening skills in accented English while choosing between original native speaker (NS) recordings and reproduced non-native speaker (NNS) recordings. This presentation showcases the results of two background research studies the presenter conducted to make the material more efficient and accessible to listeners.

The first study investigated the listening comprehension of identical test items when listening to NSs and NNSs. The participants were two groups of Japanese university students with CEFR level A2 English proficiency. Group 1 (N = 59) answered 50 multiple-choice dialogue comprehension questions, whereas Group 2 (N = 33) responded to 30 multiple-choice monologue comprehension questions. The test items were adopted from high-stakes standardized tests for university admissions administered in Japan between 2006 and 2018. The presenter selected 20 NNSs with different L1 backgrounds as dialogue or monologue speakers to produce duplicates of the original NS recordings. The participants completed the test first, listening to the reproduced NNS recordings, then repeated it after 3-5 months, listening to the original NS recordings. The paired-sample *t*-tests revealed that listening comprehension of 40% of the dialogue and 20% of the monologue test items differed significantly depending on whether they listened to NNSs or NSs. The presentation provides findings and possible causes of the disparities.

The second study sought to ascertain university students' knowledge about the English language and its users. A total of 159 Japanese university students in four groups (117 health science majors in three groups and 42 multidepartment majors in one group) answered ten statements as true or false. For instance, one statement read: "Standard English is the English spoken by native speakers." One group at a time answered the questions, and wordings of the statements were modified each time based on the percentages of correct answers. The average percentage of correct answer for the final ten statements was 45.2%. The student misconceptions about today's English-speaking world and English users and implications for ELT are discussed in the presentation.

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EAR-CATCHING ADS: PROSODIC PERSUASION IN ADVERTISING

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In this study, we consider the way that elements of voice quality are employed in multimodal persuasive texts. By looking at the connection between prosodic features and persuasion we aim to draw conclusions which will assist in the interpretation of multimodal arguments featuring linguistic content expressed in speech.

Within argumentation theory the importance of studying multimodal arguments is being increasingly acknowledged (Stockl & Tseronis 2024). However, the interplay of different modes of expression – typically verbal combined with audio-visual material – makes the proper interpretation of such materials difficult. One element which has been recognised as important is the character of the voice used to express verbal texts (Kišiček 2016, Kišiček & Hinton 2024). There are, however, a number of issues which need to be resolved before a robust model of the role of prosodic features in argumentation can be formulated and a procedure for their identification and evaluation constructed.

Our study focusses on advertisements as these are explicitly persuasive, typically multimodal, and universally present in our environment. We present several examples which illustrate the range of effects that can be achieved and the variety of rhetorical and argumentative techniques with which they can be combined. The examples illustrate how features such as accent, tone, rate of speech, and intonation lead the audience to make certain inferences about products which may influence their purchasing decisions.

Our ultimate goal is to make a contribution to legal argumentation theory and practice through the combination of insights from multimodal argumentation theory and techniques of forensic phonetics, which would allow for the full interpretation of prosodic features from the perspective of what they might be considered evidence of and how they might help to persuade. This would take forensic phonetics beyond questions of speaker identification and disputed utterances (Fairclough 2023) and place it more firmly at the heart of legal deliberation.

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FOREIGN-ACCENTED SPEECH COMPREHENSION AS A PREDICTOR OF COGNITIVE PERFORMANCE DIFFERENCES BETWEEN MONOLINGUALS AND MULTILINGUALS

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The influence of a foreign accent on the speed of processing of an utterance has been reported repeatedly despite the lack of any consistent negative impact on the understanding of the message (Munro & Derwing, 1995; Cristia et al., 2012). The researchers suggested that it may be caused by the fact that deviation in speech makes a listener look for an alternative processing strategy and ignore acoustic mismatch, which requires the usage of sentential and situational context additionally. This process demands additional cognitive resources and, as a result, takes more time (Cristia et al., 2012).
Speech comprehension studies reported that bilinguals exhibit higher "perceptual attentiveness," which enables them to detect cues that aid speech perception. It was suggested that bilinguals develop more efficient attention allocation due to the less predictable linguistic environments they are raised in, leading to greater variability in speech processing strategies (Cristia et al., 2012; Sebastián-Gallés & Albareda-Castellot, 2011; Höhle et al., 2019; Singh, 2021). Moreover, we can also notice some parallels between the characteristics of accented speech comprehension and cognitive tasks identified as crucial to discovering the difference in cognitive performance between bilinguals and monolinguals (such as how cognitively demanding the task is and whether it targets attention) (Bialystok & Craik, 2022). This allows us to predict that a foreign-accented speech comprehension task can reveal cognitive performance differences between monolinguals and multilinguals.
In this talk, I will first present a research proposal that aims to compare how accented speech comprehension performance differs between bilinguals and monolinguals. Second, I will discuss the application of a lexical decision task as the method to assess accented speech performance. Then, I will report on the steps undertaken to prepare experimental material (including words/non-words selection procedure and a foreign-accented rating survey). Finally, I will outline the possible implementation of the accented speech

comprehension efficiency into the general discussion of cognitive differences between groups with different multilingual experiences considering the foreign-accented speech comprehension task to be a speech-based cognitively demanding task targeting attention allocation strategies.

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EFFICACY OF AI VOICE CLONING IN PHONETIC SELF-IMITATION FOR L2 PRONUNCIATION

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The idea of using a well-matched and personalized voice (a so-called golden speaker) in L2 acquisition has been found to be helpful for enabling learners to expand their pronunciation repertoire (Babel, 2012; Felps et al., 2009; Goldinger and Azuma, 2004; Houde and Jordan, 2002; Llompart and Reinisch, 2018; Meyer et al., 2016; Pardo, 2006; Rojczyk, 2013; Scott et al., 2009). Phonetic self-imitation, an accent-conversion method in which acoustic characteristics in native utterances are extracted and transferred into the learner's speech input so that an L2 learner mirrors one's own voice synthesized with that of a native speaker, was first proposed over thirty years ago (Nagano and Ozawa, 1990). Since then, a handful of studies have shown that self-imitation has been proven to be effective for L2 pronunciation improvement (Bissiri and Pfitzinger, 2009; Bissiri et al., 2006; De Meo et al., 2012; Ding, Liberatore, Sonsaat et al., 2019; Hardison 2004; Hirose et al., 2003; Kusz, 2022; Kusz, 2023; Peabody and Seneff, 2006; Pellegrino and Vigliano 2015, Probst et al., 2002). Yet, this method requires continuous enhancements with new technological capabilities related to the development of neural networks and artificial intelligence. This study examines the effectiveness of selected AI tools (Revoicer and Speechify) using voice cloning in phonetic self-imitation practice, aiming to investigate whether there is a correlation between this method and the level of L2 fluency and

comprehensibility. In an 8-week pronunciation practice, 30 Polish learners of English performed self-imitation tasks three times a week (45 minutes each week), involving imitation of acoustically modified utterances using AI tools. Progress was assessed through pre-, post-, and delayed post-tests, rated on a 7-point Likert scale by native English speakers and well-experienced teachers of English. Results indicate a significant improvement in L2 fluency and comprehensibility among participants using AI-assisted phonetic self-imitation. Statistical analysis confirmed the significance of these improvements with p-values <0.01 for both metrics. The findings highlight the potential of integrating AI-driven phonetic self-imitation practice into L2 learning, offering new opportunities for L2 learners to improve their pronunciation skills and be able to work at their own time and pace.

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RELATION OF SPEECH ACTS TO PROSODIC PARAMETERS IN THE CZECH AND ENGLISH CORPORA OF TELEVISED POLITICAL DEBATES

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Televised political debates are a frequently researched media genre as they discuss current social issues while being institutionalised and antagonistic in nature (Hyatt, 1999). Our perspective of investigation intends to focus on the speech acts within these debates and will look for their relationship to prosodic parameters.
In our view of speech acts, we do not depart from J. Searle's (Searle, 1975) concept of speech acts, only we extend it to include the notion of speech acts of Van Eemeren and Grootendorst's (Van Eemeren & Grootendorst, 2010), who have incorporated speech act theory into their pragma-dialectical approach to argumentation (Van Eemeren, 2016).
For the purposes of this research, we created two corpora of televised debates, one from the Czech Republic (6 debates, 12 speakers) and another one from Arizona (4 debates, 10 speakers). All speakers and moderators were male. The corpora were phonetically processed and manually annotated. In addition to the speech acts, we also annotated the valence of the utterances (Russell, 1980), which can indicate to some extent the current attitudes of the speaker (Harmon-Jones, 2019).
Prosodic parameters examined include intonation, intensity, and tempo, which speakers manipulate within a given genre in pursuit of their goals (O'Connor & Barclay, 2017; Tigue et al., 2012). Valence, for example, is often associated with changes in pitch (F0) and intensity. Positive valence is typically characterized by higher pitch and greater intensity (whereas the tendency is reversed for negative valence), and also the distribution of spectral peaks of the first formant frequency (F1) can indicate valence, with higher F1 frequencies often associated with positive valence (Bestelmeyer et al., 2017).
Preliminary results using a mixed data analysis method suggest that guests do indeed use different intonation ranges depending on the specific speech act, for example, but for all speech acts the results were not statistically significant. Already at annotation, we observed the expected differences in the distribution of speech acts between guests and the moderator, with the moderator (whose speech we assess separately) being dominated by directive speech acts with positive valence. In the following stages, we also expect

confirmation of previous research that affective valence may influence intonation variability (both range and overall contour variability) (Šedivá, 2020). According to the preliminary analysis, for some prosodic parameters we expect to demonstrate the presence of culturally determined differences between the English and Czech corpora (e.g. in intonation range). The output of the thesis will be the correlation of speech acts to their prosodic parameters by comparing the Czech and English televised debate corpora.

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PHONETIC DRIFT AND CROSS-LINGUISTIC INFLUENCE IN VOT: POLISH IMMIGRANTS' PRODUCTION OF ENGLISH AND POLISH VOICELESS STOPS

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Aspiration is one of the most characteristic features of English pronunciation and has been an object of investigation in Second Language Acquistion (SLA) research. Various studies have revealed that the production of long-lag voice onset time (VOT) is difficult for L2 learners who use the short-lag VOT in their L1 (Chang, 2010, 2013; Kellogg & Chang, 2023). Achieving success in VOT production depends on many factors such as language experience or the nature of L2 input (Rojczyk & Porzuczek, 2012; Waniek-Klimczak, 2009, Matysiak, 2016, 2020). The shift in the VOT values towards the English target has been shown to affect the production in L1 (Flege, 1987, Waniek-Klimczak, 2011).

The current study examines VOT in Polish immigrants' production of initial /p/, /t/, and /k/ in English and Polish words, addressing theories of phonetic drift (Chang, 2019) and cross-linguistic influence (Sharwood Smith & Kellerman, 1986; Odlin, 1989) according to which speakers may adapt L2 phonetic features in their L1, but the extent of such adaptation varies. Twenty Polish immigrants (advanced level learners) were recorded pronouncing words in isolation and as an element of a picture description in both languages. VOT values were then measured using Praat software and compared between both languages. Findings indicate that while Polish immigrants display shorter VOT values in English than native English speakers, these are still longer than in typical Polish productions. This might suggest partial adaptation in VOT production, with individual variability.

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DOES DIRECTING ATTENTION TO L2 VOWEL CONTRASTS RESULT IN L2 VOWEL LEARNING? AN EYE-TRACKING STUDY ON TEXTUALLY-ENHANCED AUDIOVISUAL INPUT

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L2 pronunciation learning can benefit from audiovisual input through subtitled videos, as simultaneously seeing the written form of a word while hearing its auditory form aids in word recognition, which, in turn, might enhance a comparison between auditory word forms and their phonological-lexical representations (Bird & Williams, 2002). Additionally, exposure to textually-enhanced words in captioned video can draw learners' attention to challenging L2 phonological distinctions. Research shows that input enhancement may improve L2 learners' perceptual sensitivity to L2 sound contrasts (Mora & Fouz-González, 2024), their production (Hutchinson & Dmitrieva, 2022), and update learners' phono-lexical representations (Galimberti et al., 2023). Despite its potential for pronunciation learning, input enhancement remains under-researched, with no studies specifically analysing the relationship between the time spent focusing on captions and post-viewing pronunciation gains. This study investigates whether greater attention to target words featuring a challenging vowel contrast (English /æ/-/ʌ/) results in vowel perception and production gains.

Catalan/Spanish advanced EFL learners (*N*=116) watched a 30-minute episode of the TV series *Ted Lasso* with captions while their eye-gaze was being recorded on an eye-tracker. They were randomly assigned to different conditions: C1 viewed the episode with regular orthographic captions without enhancement, C2 with captions and the two target sounds in yellow (non-contrastive), C3 with captions and the target sounds in yellow and purple (contrastive), C4 with phonemic transcription and the target sounds in yellow (non-contrastive), C5 with phonemic transcription and the target sounds in yellow and purple (contrastive). C6 completed reading and oral tasks without watching the episode, thus acting as control. Learners' /æ/-/ʌ/ perception was assessed before and after the viewing through lexical and phonetic identification and discrimination tasks. Production accuracy was assessed acoustically on target words elicited in a delayed word repetition task. Preliminary analyses indicated that watching the 30-minute episode yielded small but significant vowel perception and production gains. Ongoing analyses are exploring the relationship between the time learners spent focusing on captions, and L2 vowel perception and production gains. These findings provide deeper insights into how directing learners' attention to challenging L2 phonological contrasts by manipulating textually enhanced input may benefit L2 pronunciation learning.

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ATTITUDES TOWARDS WORLD ENGLISHES AND ACCENT DISCRIMINATION IN THE ITALIAN SCHOOL SYSTEM

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According to Kachru (1992) the global spread of English can be synthetised in a model with three concentric circles: the inner circle (e.g. UK, US), where English is the dominant mother tongue; the outer circle (e.g. India, Nigeria), where English is used as a second language in official contexts; and the expanding circle (e.g. China, Japan), where English is learned as a foreign language. This framework has influenced the teaching of English by emphasising the importance of exposing students to different varieties of World English,es rather than focusing solely on Standard English (Kachru 1992; Seargeant, Swann 2012; Matsuda 2003, 2013).
The phenomenon of World Englishes and its implications have been addressed several times; however, the question of social acceptance of non-standard varieties by teachers and students remains open (Lippi-Green 2012). This study aims at exploring possible discrimination of World Englishes accents among Italian secondary school students. 80 questionnaires were collected in two different Italian cities in the framework of a verbal guise experimental design, where students were asked to judge and rate different voices of students and teachers of English reading the same passage from a schoolbook. The following accents of English were used in the verbal guise experiments: four accents from the Inner Circle (Standard American; Standard British; African American; Multicultural London English), two from the Outer Circle (Indian; Nigerian), three from the expanding

Circle (Italian; Chinese; Ukrainian). Participants were presented 9 different audio stimuli of male and female voices reading an excerpt of a school manual, with different contextualisation (teachers/students). After listening to each stimulus, participants were requested to express their agreement on a 5-point Likert scale regarding a set of adjectives describing the person just heard. To assess attitudes towards different accents the Stereotype Content Model (SCM, Fiske et al. 2002) was adopted. According to SCM, the two dimensions of competence and warmth organize the perception of social groups and individual. The dimension of competence is related to the perceived status, whereas the warmth dimension is related to solidarity (Conte & Plutchik 1981). Nine adjectives were used, six for each of the competence and warmth dimension, three for the speech traits dimensions. It was then requested to guess the provenance of the speaker. This experiment aims at testing three research questions. We hypothesise that i) British English will be favoured for competence and American English for solidarity, whereas outer- and expanding circle varieties will be downgraded in comparison and perceived negatively. We then hypothesise that ii) Italian English accent will be perceived negatively for competence, but positively for solidarity. Finally, we predict that iii) students will be more critical towards teachers on the competence dimensions and, conversely, they will be more critical towards peers on the solidarity dimension.

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ENGLISH CONSONANT DISCRIMINATION SKILLS IN CLIL AND EFL YOUNG LEARNERS

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To date, scant attention has been devoted to the acquisition of English pronunciation in contexts following Content and Language Integrated Learning (CLIL) instruction.
Available work has mainly focused on CLIL students' oral production in secondary education, which suggest that CLIL may present a slight advantage in comprehensibility (Gallardo-del-Puerto, Gómez-Lacabex & García-Lecumberri 2009; Rallo-Fabra & Juan-Garau 2010) but not in accentedness, fluency or vowel accuracy (Rallo-Fabra & Jacob 2015). In addition, it has not been attested whether this trend is maintained when CLIL instruction is implemented in primary education. Furthermore, recent work has pointed out that CLIL exposure may contribute to neutralise the female advantage characteristic of EFL contexts in content attainment (Nieto Moreno de Diezmas & Hill 2019), vocabulary acquisition (Fernández-Fontecha 2014) or language learning motivation (Gallardo-del-Puerto & Blanco-Suárez 2021). Thus, it would be interesting to explore whether gender plays a role in the acquisition of second language (L2) phonology (Moyer, 2016) in CLIL environments. We analysed consonant discrimination skills in English by schoolchildren (aged 8-10) in CLIL (n=171) and EFL (n=149) contexts. They took part in a computer-aided AXB discrimination task which tested 9 English consonants in onset position /p-, k-, t-, b-, v-, z-, j-, ð-, dʒ-/ and 5 consonants in coda position /-m, -ŋ, -b, -d, -g/ in CVC words such as *Tim* or *bang*. The analysis indicated that there were no statistically significant differences between CLIL and EFL learners as regards their English consonant discrimination skills, with the exception of the voiced labiodental fricative /v-/, which was better discriminated by the CLIL group. In addition, gender yielded no significant differences when considering all the consonants together. However, males outperformed their female counterparts when discriminating a voiceless alveolar plosive /t-/ and a voiceless postalveolar fricative /ʃ/ in onset position and a voiced alveolar plosive /-d/ in coda position. This slight male advantage was seen both in the CLIL and EFL groups. These results point to a rather limited effect of CLIL instruction on young learners' English consonant discrimination skills. The findings align with prior studies indicating very few differences between CLIL and EFL learners' pronunciation. Additionally, gender differences did not emerge as a consistent factor distinguishing CLIL and EFL.

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DISCRIMINATION AND EVALUATION OF ACCENTEDNESS IN JAPANESE ACCENTED ENGLISH

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In this presentation we investigate the issue of difficulties for Japanese listeners to perceive

differences amongst vowels and consonants in English and its implications on the production of such segments. We employed a manipulation technique (Pérez-Ramón et al., 2020) that allowed us to analyze the impact of individual segmental mispronunciations among listeners to determine which vowels and consonants are most difficult for Japanese listeners to perceive. We conducted an experiment consisting of two tasks to assess whether Japanese listeners could perceive differences in levels of accentedness of English words. In the first task, listeners were asked to determine whether two recordings of the same monosyllabic English word were pronounced identically or if they could perceive any difference in pronunciation. These two recordings differed in only one segment (either the initial consonant or the nucleus vowel), which was modified using a bilingual synthesis manipulation technique to introduce a controlled degree of foreign accent, from 100% American English accent to 100% Japanese accented English.
The main advantage of this manipulation technique is that it allows a detailed analysis of how listeners perceive accented realization of individual segments. For the second task, the listeners were asked to subjectively evaluate the degree of foreign accent in the same words as in the previous task, using a Likert scale from 1 (no accent perceived) to 7 (strong foreign accent). Our results show that vowels were better discriminated than consonants

by the Japanese listeners, which means that they may be more sensitive to differences amongst some pairs of vowels (Yazawa et al., 2023). By separately analysing the effect of each of the experimental vowels, we found better discrimination skills among /a/-like vowels ([æ, ɑ:]) than other accented realisations, e.g., in the perception of [ɪ] when produced as [i] (Makino, 2013). As expected, the Japanese listeners had problems discerning the consonantal [l-ɾ] pair (Nagamine, 2024). Interestingly, the distinction between pronunciation of native English (NE) [v] and Japanese accented English (JE) [b] seems to have been easier than the distinction between NE [f] and JE [h]. As for the plosives, the aspiration in NE [k^h] compared with non-aspirated JE [k] may have elicited a slightly categorical perception that did not occur with NE-JE [t^h-t]. Importantly, the degree of perceived accentedness was higher in vowels than in consonants, which implies that Japanese listeners may be better able to discern vowel mispronunciations. We discuss the implications of these findings for the production-perception paradigm.

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PRODUCTION OF L2 ENGLISH VOWELS BY L1-SPANISH LEARNERS IN AN ISLA CONTEXT: A LONGITUDINAL STUDY

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There is extensive empirical evidence about the difficulties experienced by L1-Spanish learners to master the vowel system of English, both from the perception and production perspectives (Cebrian, 2006; Fouz-González, 2021; Mora, 2023; Rallo Fabra & Romero, 2012, among others). The main source of difficulties involves distinguishing the vowel pairs /i ɪ/and /ɛ æ/. This seriously compromises intelligibility due to the high functional load of these contrasts. In most of these studies, vowel production accuracy was operationalized acoustically in terms of the spectral and time differences between learner

productions and native English speaker productions (Flege et al., 1997: Pesantez et al., in press). An important methodological limitation of this work is that researchers followed either a cross-sectional approach and recorded the participants at one point in time or a pretest-posttest design to examine the short-time effects of a training regime. Recently, some researchers in the field of instructed second language acquisition (ISLA) have made a plea to document learners' gains longitudinally (Pesantez & Dellwo, 2022; Tracy-Ventura et al., 2021), arguably certain effects are non-linear and require an incubation period for certain learners (Hiver & Nagle, 2024; Nagle 2025).

The present study analyzed the production of English vowels by a group of L1-Ecuatorian Spanish learners in an ISLA context at three points in time (T1, T2, T3) who had only exposure to non-native English teachers. Non-native L2 teachers are likely to speak the target language with a foreign non-native accent but exposure to accented speech might not necessarily hinder the acquisition of L2 new sounds. Participants were recorded producing 5 words for each of the vowels tested in a naming task to avoid orthography-induced pronunciation errors. The spectral values of the vowel portions were Lobanov-normalized and converted to z-scores. Vowel production development was operationalized in terms of Euclidean distances (ED) between the two vowel pairs /i ɪ/ and /ɛ æ/. Statistical analysis with mixed methods exhibited gradual widening as a function of time for the vowel pair /i ɪ/. Similarly, pronunciation improvement was observed for the vowel pair /ɛ æ/ exhibiting gradual narrowing in the ED as a function of time. Taken together these findings provide supporting evidence that, (1) L2 pronunciation improvement in ISLA context is possible even with non-native input and, (2) widening the time window analysis for measuring pronunciation gains gives us more information about learner trajectories and long-term retention.

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VOWEL INHERENT SPECTRAL CHANGE IN GERMAN LEARNER ENGLISH

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This ongoing research project explores the acquisition of Vowel Inherent Spectral Change (VISC) among German L2 learners of English. The study focuses on three primary questions: (1) Are there notable and systematic differences in VISC patterns between German learners and native English speakers? (2) How do specific learner and demographic factors influence the attainment of native-like VISC? (3) Which independent variables among learners effectively enhance the acquisition of native-like VISC in English?

This presentation will focus on an acoustic analysis of VISC in eight monophthong vowels produced by German L2 learners (Strange et al. 2007), comparing their patterns to those of native speakers, specifically from General American (GA) and Southern Standard British English (SSBE). Using Praat (Boersma & Weenink 2024) and various signal processing techniques for consistent and reproducible measurements (Sundararajan 2021; Kendall et al. 2021), vowel trajectories were processed, extracted, and subjected to statistical analysis (Boersma & Weenink 2024; R Core Team 2024).

The initial results will be discussed, focusing on the overall Euclidean distance averages of VISC, which provide a general assessment of dissimilarity between native speaker trajectories and individual learner productions (Schwartz et al. 2016). Preliminary findings reveal significant differences in select vowel trajectories between the GA and SSBE native

speaker groups, along with indications that certain learner criteria (such as duration of residency in an English-speaking country and years of formal English language instruction) and demographic characteristics (including age, sex, and gender) have a moderate influence on the acquisition of native-like VISC. Ultimately, this research aims to shed light on the complexities of acquiring VISC in a second language and outlines potential future directions for this study.

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DIALECTOMETRIC DISTANCE MEASUREMENTS OF SPANISH-ACCENTED ENGLISH: TYPICALITY AND ACCURACY

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Levenshtein (1966) distances have previously been used to compute linguistic differences in dialectological research (Heeringa, 2004), in intelligibility studies with closely related language varieties (Beijering et al., 2008; Gooskens et al., 2008) as well as in those concerned with foreign-accented speech to predict the prototypicality of foreign-accented speech (Jurado-Bravo, 2021, 2024). However, the last type of research is still scarce. At the same time, features characteristic of Spanish-accented English have also been studied extensively (e.g., Mott, 2005; Walker, 2010).

The aim of this paper is threefold. First, we aimed to establish a data-driven inventory of the (proto)typical (or most frequent) features of a Spanish accent in English, some of which were hypothesised to be potentially different from expected, stereotypical, or more salient features (cf. Kochančikaitė & Roll, 2022; MacKenzie et al., 2019; Mompéan-González, 2001). Second, dialectometric distances were calculated between each speaker's pronunciation and (a) the abstract group prototype with the aim of detecting the most/least prototypical speakers (D-PROT) and (b) the standard pronunciation in order to identify the most/least accurate speakers – with SSBE serving as a benchmark (D-SBEE). Third, the sociodemographic sample characteristics (experience abroad, English use, English level, and parents' education) were tested for associations with the calculated distance measures.

For this purpose, a group of 74 university students (34 females and 40 males) born and raised in the region of Madrid were recorded. Their average age was 19.9 years (SD = 2.7) and 56 had an intermediate level of English. The recording consisted of a short text (91 words) and a series of 31 individual words. A set of 60 segmental tokens of 25 types were selected for analysis based on the reported difficulties of Spanish learners of English and typical features of Spanish-accented English. They were transcribed by two independent raters. Dialectometric differences were calculated based on a two-way (match/mismatch) distinction. The average intraclass correlation coefficient for the distance measures of the two raters was .829 for D-PROT and .973 for D-SSBE. Thus, the mean of the two raters was used in the final statistical tests.

While most prototypical features, such as the devoicing of /z/, approximant realisations of /b/, /v/ or /d/ and the lack of vowel reduction, align with previous research, the segmental analyses also indicate that Spanish speakers of English may not typically use a vowel prothesis in /sC-/ clusters, pronounce an obstruent /j/ or resort to velar reinforcement in /w/ - despite the existing stereotypes. Moreover, the phonemes /z/ and /ʒ/ seem to be virtually unacquired in the sample. Regarding group differences in D-PROT and D-SSBE, both genders performed in a similar fashion (D-PROT p = .757, D-SSBE p = .319). However, D-SSBE was associated with all the investigated independent variables. This suggests that a speaker's computed prototypicality might be difficult to predict through sociodemographic variables, while their objective segmental performance is not as it is likely associated with the speakers' general level of competence. Future research avenues include associating the measurements from the present sample with listener prototypicality judgments (cf. Beijering et al., 2008; Jurado-Bravo, 2024), and computationally factoring in feature salience rates.

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MEASURING STRESS DEAFNESS: A PILOT STUDY ON HUNGARIAN LEARNERS

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Since Hungarian has fixed stress placement, and the stress is always on the first syllable of the word, native speakers of Hungarian have difficulty in acquiring the stress system of foreign languages in which the stress may be on other syllables as well. This can be a challenge even when learning languages which have fixed stress placement on other than the first syllable (e.g., Polish, French). However, learners encounter serious difficulty in case of foreign languages where the stress can fall on any syllable of the word, such as English. In such languages, there may be pairs of words where the segments are identical, and the two words differ in only stress placement. These stress minimal pairs can even be perceived as identical by native speakers of Hungarian (or speakers of any language with a fixed stress), since they may suffer from stress deafness.

The phenomenon of stress deafness was first described by Dupoux et al. (1997) among native French speakers, and for a decade, research on stress deafness was limited to this context (Dupoux et al., 2001; 2008). Although studies on the topic have subsequently appeared in the contact context of other pairs of languages (Csépe, 2010; Honbolygó et al., 2019; Piukovics & Üstöki, 2019), not all of them rely on empirical data, and the topic is still rather underrepresented in academic discourse. Therefore, there is increasing need for a representative study in the Hungarian educational context to understand the extent Hungarian learners may be affected by this condition and to reveal which individual difference variables might have an impact on learners being stress deaf.

To achieve this aim and fill the existing gap, a questionnaire was designed including a stress deafness test and the following constructs: musical ability, motivation, willingness to communicate, anxiety, learner beliefs and learning styles. As of September 2024, the questionnaire is in its pilot phase, with the results to be collected during October and November 2024. The innovative nature of our instrument lies in its built-in stress deafness test, which was intentionally made challenging to minimise the chance of random guessing (an issue with AX discrimination tasks). Our deafness test employs segmentally identical two-syllable stress minimal pairs, with four distinct answer options (with stress patterns marked with circles of different sizes: A. Oo-Oo, B. Oo-oO, C. oO-oO, D. oO-Oo), ensuring a more accurate assessment of participants' stress deafness. Initial piloting phases have demonstrated that the instrument is capable of detecting even subtle differences in stress deafness levels, which will allow for a more precise analysis of how individual difference variables influence this condition. The results will allow for a detailed and representative assessment of Hungarian learners of English, which will benefit language teachers and researchers alike.

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FOREIGN ACCENTS, GENDER AND PERCEPTIONS OF COMPETENCE IN COVID-19 MESSAGING IN THE UK: A 'JOHNNY FOREIGNER' EFFECT?

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Accented non-native speakers (e.g. students, teachers, workers and professionals in various forms of employment) often face accent-based discrimination, being rated as less competent and less trustworthy than their native counterparts (Chakraborty, 2017; Fuertes et al., 2012; Gluszek & Dovidio, 2010). However, UK-based evidence for this phenomenon is thus far limited.
This UK-based study investigated the effects of accent (British, Polish, Indian) and gender on perceptions of competence regarding COVID-19 public messaging. We hypothesised that (i) British and (ii) masculine voices would be perceived as more competent than (iii) Polish and Indian and (iv) feminine voices, respectively.
Adult participants (N = 348) listened to voice recordings providing COVID-19 information and then rated both the information and the speaker on competence. The study used the verbal-guise technique as the method for presenting voice stimuli (i.e. use of multiple speakers/actors, instead of computer generated voice recordings that may sound artificial). It employed both a content-based instrument (Schoel et al., 2013) and a speaker-based instrument (Fuse et al., 2018) to measure perceptions of competence.
The results support the first hypothesis, $F(1.94, 672.76) = 31.53$, $p < .001$, $\eta_p^2 = 0.083$, but not the second hypothesis. In brief, we found that British accent was perceived as more competent than both Polish and Indian accents. We also found that British female speakers were perceived as more competent than British male speakers and all other speakers in this study. This raises interesting questions about current theories of gender stereotypes.

We discuss the role of biased perceptions and competing stereotypes in healthcare and public policy, as well as wider implications for education and public health. To our knowledge, this is the first study to look at the effects of foreign accents on Covid communications.

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HOW MUCH TRAINING IS ENOUGH? THE INFLUENCE OF TEACHER TRAINING IN PRONUNCIATION INSTRUCTION IN SECONDARY SCHOOLS IN SPAIN

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Since the beginning of the twenty-first century, several research studies have advocated for the effectiveness of pronunciation instruction in the EFL classrooms, especially to improve students' communication skills (Darcy, Ewert and Lidster, 2012; Derwing, 2008; Derwing and Munro, 2015; Isaacs, 2009; Levis, 2005, 2018; Saito, 2012; Sicola and Darcy, 2015). However, research does not tend to filter down to the English class and many teachers still avoid teaching it today, being training one of the main reasons they do not feel confident to introduce pronunciation in their lectures (Burns, 2006; Couper, 2017; Foote, Holtby, and Derwing, 2011; Henderson et al., 2012, Isaacs, 2009; Kirkova-Naskova et al., 2013; MacDonald, 2002; Nagle, Sachs, and Zárate-Sández, 2020). Teachers seem to face problems inserting pronunciation instruction in the curriculum which go beyond the teacher's knowledge of the target pronunciation (Burguess and Spencer, 2000): practitioners might not have the phonological knowledge to teach pronunciation but many times they do not know to teach it effectively, often because pronunciation teaching is not included their training.

This study, which belongs to a broader research project investigating the current state of pronunciation instruction in Spanish secondary schools, aims at examining the extent to

which having received training in pronunciation and pronunciation teaching affects EFL teachers'choices of the theoretical concepts taught and techniques employed. To this end, a survey study was conducted, and the responses of thirty-eight teachers around the country between May and October 2023 were examined. This paper investigates the answers to the instruction of eleven theoretical and seventeen practical options respectively, which were distributed according to four different training situations: trained in both general pronunciation and pronunciation teaching (G1), trained in general pronunciation (G2), trained in pronunciation teaching (G3), and not trained in pronunciation (G4). Percentages showed that there is a clear tendency of G1 introducing more theoretical notions in class, but not for the use of different practical strategies. Then, Fisher's tests were run for each of the items under study. Results revealed that the more training received, the more theory taught ($p = 0.012$), but no significance was found for each of the individual items under analysis for both theory and practice.

Although more participants are needed to reach conclusive results, this study shows that teacher training plays a role in the introduction of pronunciation instruction in the EFL classroom and, hence, teacher training programs should include more of it in their curriculum.

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WHOSE CANADIAN ENGLISH/ES? REPRESENTING ACCENT IN A NEW NATIONAL DICTIONARY

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It has been over a generation since the publication of full-sized, general-language Canadian English dictionaries (*The Canadian Oxford Dictionary*, 2nd ed., Barber 2004; *Gage Canadian Dictionary*, 5th ed., DeWolf et al. 1997; *ITP Nelson Dictionary*, Friend et al. 1997). In 2022, a consortium of editors and academics formed to address this gap and begin the process of creating a new dictionary. Among the many issues to consider is the representation of pronunciation and accent. In this talk, we provide background on the dictionary project, an overview of the questions and challenges regarding pronunciation and a discussion of when and how to include characteristic Canadian English (CE) accent features.

The dictionary consortium, spearheaded by Editors Canada and including scholars from Queen's University and the University of British Columbia, is guided by two overarching goals. The first is the practical mission of producing an updated resource incorporating changes from the past twenty years (e.g. Boberg et al. 2024). The second is the aim of creating a dictionary "for all Canadians", with a commitment to reflecting the increasing use and importance of Indigenous vocabularies, heritage languages and culturally diverse communities. The representation of accent is a critical aspect of both goals.

There are many complex issues to consider with regard to pronunciation. Questions our team is considering include: Which transcription system is best? What is our model for the inclusive standard? How much variation should we document? We review the approaches of past CE dictionaries and those of other English varieties to help inform our decisions. Related to these issues is the overarching question: Who are the transcriptions for? Native speakers of CE may be the least likely to refer to the transcriptions while language learners will probably find them highly relevant. As such, how do we keep the needs of learners at the forefront of our decision-making?

Finally, we consider which Canadian features to include. There are several characteristic phenomena often associated with a CE accent, perhaps the best known of which is Canadian Raising, whereby the diphthongs /aʊ/ and /aɪ/ raise before voiceless stops.

We review the literature on raising (Chambers 1973, Thomas 1991, Boberg 2010, Denis et al. 2024, a.m.o) to determine its scope and whether or not it warrants representation. Such considerations are intertwined with the role of dictionaries as tools of national identity and how CE is distinct from other national varieties.

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PRONUNCIATION SKILLS EMPOWERMENT THROUGH STRATEGY TEACHING: FOCUS ON L2 LINKING

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When words are spoken in connected speech, they often sound quite different from the same words pronounced in isolation due to the connected speech processes (sound deletions, additions, combinations, and/or changes) that generally take place in running speech (Alameen & Levis, 2015). For this reason, it is not uncommon to see English learners struggle when listening to words spoken in context. Unfortunately, due to their high dependence on rhythmic constraints, these connected speech processes are seldom taught in language classrooms. Yet, their importance to language and cognitive development cannot be overlooked (for a comprehensive review, see Bi et al., 2022). This presentation extends our understanding of one connected speech process: linking. English linking takes place when a speaker combines two sounds within words and at word-boundaries while still keeping their phonetic qualities (Celce-Murcia et al., 2010). It is critically important to teach English linking not only because it can make naturally-occurring speech more comprehensible to ESL/EFL learners but also because the lack of it often affects second language (L2) learners' oral intelligibility (Levis, 2018).

The paper reports on a study that investigated the effectiveness of one approach – The Enhanced Covert Rehearsal Model (Sardegna, 2023) – for teaching English linking to 25 ESL graduate students at an American university. The students took a four-month English pronunciation course that empowered them with rules and strategies for self-study. The teacher raised students' pronunciation awareness of the features they needed to work on, and provided ongoing feedback via one-on-one meetings, during class, and through oral recordings. English linking was one of the targets for instruction. Data were collected from read-aloud scores on linking targets taken at three different points in time (pre-, post- and delayed tests) (total = 13 months), a background questionnaire, and students' self-reports of autonomous strategy use after the four months of instruction. A repeated-measures ANOVA indicated significant short- and long-term improvement with English linking. An analysis that triangulated students' scores and self-reports of practice time and strategy use provided valuable insights regarding students' choices and the effectiveness of their choices for self-regulated pronunciation practice. The presentation concludes with pedagogical implications.

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FRICATIVE-STOP CLUSTERS IN THE SPEECH OF L1 POLISH LEARNERS OF ENGLISH

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Most research on consonant clusters in L2 English focuses on speakers of L1s with conservative clustering possibilities. A classic example is that of L1 Japanese learners of English, who insert vowels into consonant clusters (and after most syllable-final consonants), rendering e.g. *strike* as /sutoraiku/. A question that is less often asked is the following: what happens when the L1 has more permissive clustering possibilities than the L2?

Polish, as is well known, has a very large inventory of consonant clusters, so phonotactics is generally not seen as an area of difficulty for L1 Polish speakers of English. However, although all of the word-initial consonant sequences in English also appear in Polish, including both /s/-initial seqeuences (e.g. /st/ in *stock* vs. Polish *stok* 'slope') and rising sonority sequences (e.g. /kl/ in *clay* vs. Polish *klej* 'glue'), it is not entirely clear the extent to which these sequences may be considered equivalent across the two languages. In this regard, /s/-stop initial clusters represent a particularly interesting case, showing both phonological and phonetic language-specific differences. In English, the second consonant (C2) position in the English sequences is phonlogically weak and cannot contrast for voicing, while phonetically it resembles lenis stops with very short voice osnet time (Cho et al. 2014). In Polish, C2 is phonologically strong and determines whether a fricative-stop cluster will be voiceless or voiced, while the phonetics shows no signs of weakening in this position.

This presentation will describe phonetic data on /s/-initial cluster production by Polish learners of English, in both L1 and L2. Acoustic measures reveal an interesting cross-language interaction in which learners at two groups of proficiency produce longer VOTs in L2 than in L1. This result suggests that the source of interference is not L1. Rather, it appears that the speakers have mistakenly substitued L2 aspirated stops, which they have successfully acquired in initial position (see Wojtkowiak 2022), into the post-/s/ context. Implications of these findings for both theories of L2 speech (e.g. Flege 1995; Flege & Bohn 2021), and the phonological representation of consonant clusters (Schwartz 2023), will be discussed.

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'SHE HAS AN ACCENT' - WHEN PRONUNCIATION OVERRIDES APPEARANCE IN DETERMINING WHETHER SOMEONE IS A NATIVE ENGLISH SPEAKER

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Studies on nativeness affirm that being judged/perceived as a native/non-native English speaker is determined by social factors such as nationality, variety spoken and ethnicity. Some scholars have suggested new terminologies to describe speakers' language proficiency (Rampton, 1990 and Faez 2011b) whereas others have investigated the linguistic identity of speakers including how they self-identify and are identified by other speakers as native/non-native English speakers (Rubin and Smith, 1990; Rubin, 1992; Brutt-Griffer and Samimy, 2001; Davies, 2003; Doerr, 2009; Faez, 2011a; Yi et. al, 2013; Babel and Russell, 2015; Zheng and Samuel, 2017 and D'Onofrio, 2019). This study investigated how listeners from seven different countries judged speakers who were audio and video recorded as native or non-native English speakers by comparing whether having access to the videos made listeners change their ratings. Nine speakers from different linguistic backgrounds who resided in Canada by the time of the data collection were audio and video recorded. Thirty-two listeners listened the recordings and watched the recordings and judged speakers as native/non-native English speakers. Listeners' judgements for the audios and videos were compared and analyzed as well as their comments for each speaker. The results show that though a few listeners in this study did consider appearance when rating the speakers, only a minority of them, in a minority of cases, changed their judgements when they saw the videos, and of those, few referred explicitly to appearance or geographical origin as information they used in making their judgement.

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THE ROLE OF THE NUMBER OF TALKERS IN BABBLE IN SECOND-LANGUAGE VOWEL PERCEPTION: A COMPARISON BETWEEN HUMANS AND NEURAL MODELS

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Computer-assisted perceptual training (CAPT) of second-language (L2) vowels is highly effective especially when using high variability pronunciation training (HVPT) (Thomson, 2018). First-language studies (e.g., of those with hearing deficits) suggest that perceptual training in noise, particularly in multitalker babble (competing voices in the background), can be beneficial (Ingvalson et al., 2012; Zhang et al., 2021). However, it is unclear whether training is also beneficial for L2 listeners and whether there is an optimal number of talkers in babble that is the most beneficial to listeners. To address this issue, in addition to directly investigating how the number of talkers affects humans, this study compares L2 listeners' accuracy in their ability to perceive L2 vowels with the accuracy of Automatic Speech Recognition (ASR) neural models. Such a comparison may provide useful insights because it can be done efficiently given that neural models are inspired by

the structure and function of the human brain (Fukushima, 1980; Rumelhart et al., 1986), and studying the effects of babble for humans is complex and time-consuming. Specifically, we compared the effects of babble produced by two talkers (two-talker babble) in an online study using HVPT with babble with six talkers (six-talker babble) on Dutch listeners' perception of American English vowels (/ɛ/-/æ/ and /eɪ/-/aɪ/) produced in monosyllabic words. To determine which neural models most resemble humans, given that the best ASR system might not be the one that has the highest accuracy but that best mimics and reflects human perception, we compare the accuracy rates of neural models, including TDNN model (Peddinti et al., 2015), Wav2Vec2.0 (Baevski et al., 2020) and Whisper model (Radford et al., 2023), which are trained under similar conditions as those used for humans. Preliminary results from the online study indicate that participants (n = 3) trained with 6-talker babble improved their perception more than those (n = 2) with 2-talker babble whose perception worsened. The results suggest that 6-talker babble might be more beneficial than 2-talker babble possibly because 6-talker babble added more difficulties as participants had to work harder in separating different speech sources (Humes et al., 2017). Regarding neural models, we predict that Whisper will best mimic human performance, given that it is trained on multiple languages thus also best reflects the linguistic diversity of human populations.

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THE IMPACT OF FIXED- VERSUS FREE-STRESS L1 STATUS, SYLLABLE WEIGHT, AND WORD CLASS ON L2 ENGLISH STRESS PLACEMENT INTUITIONS

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L2 English learners from fixed-stress L1s, which don't use stress for word recognition, may be less sensitive to English stress than speakers of free-stress languages. Poor stress perception may reduce the ability to store stress information in the phonological representation (Peperkamp and Dupoux 2002). We compared Czech (fixed initial stress), Polish (fixed penultimate stress) and Russian (free stress) advanced EFL learners' stress-placement intuitions for English disyllabic nonwords (relative to Guion et al.'s 2003 native data), examining the role of syllable weight and grammatical class. If one's L1 influences stress placement even for advanced learners then the Czechs and Poles, but not the Russians, should prefer first (penultimate) syllable stress irrespective of weight and grammatical class; if exceptions to L1 fixed stress increase stress sensitivity in the L2 (Kijak 2009), the Poles should outperform the Czechs.
We analysed stress-placement judgements from 43 young adults (13 Czechs, 12 Poles, 18 Russians), English majors with LexTALE scores over 60% (Lemhöfer and Broersma 2012) and knowledge of IPA. The stimuli, based on Guion et al. (2003), were nonwords of 4 types varying in syllable weight distribution (e.g. /beɪ.tɪst/, /dɛ.kɪps/, /nɪ.lɛt/, /kɪ.gi:n/), 3 tokens per type. Twenty-one longer words were fillers. In an online task, each stimulus appeared written in IPA in 2 sentence frames indicating its grammatical class: *"I'd like to …"* and *"I'd like a …"*. The participants pronounced each word in the frame and decided which syllable should receive stress.

Figure 1 shows values predicted by a mixed-effects logistic regression model (all fixed effects sum-coded). The Russians did not prefer the initial-/penultimate-syllable placement reliably less than did the Czechs and Poles: p(response=initial-syllable) respectively 0.51, 0.56, and 0.58. All L1 groups showed the expected effect of grammatical class (logit slope: 0.651, SE=0.165, z=3.932, p=8.44×10-05, see Fig1) and an increased preference for initial-syllable placement with /beɪ.tɪst/-pattern stimuli (logit 1.192, SE=0.189, z=6.309, p=2.80×10-10 Fig1, left), which was even more pronounced for the Russians (logit 0.575, SE=0.214, z=2.692, p=0.00711). Increasing LexTALE scores reliably predicted decreasing initial-stress response probability (logit -0.030, SE=0.014, z=-2.104, p=0.03538), interacting with L1 and syllable weight so that this didn't hold for /beɪ.tɪst/-stimuli for the Czechs (logit 0.075, SE=0.033, z=2.271, p=0.02317) or the Poles (logit 0.049, SE=0.025, z=2.000, p=0.04551). Overall, higher LexTALE coincided with closer approximation to native syllable-weight conditioning.
We found improvements with proficiency demonstrating that advanced learners with fixed-stress L1s can acquire category and syllable-weight conditioning of L2 stress placement.

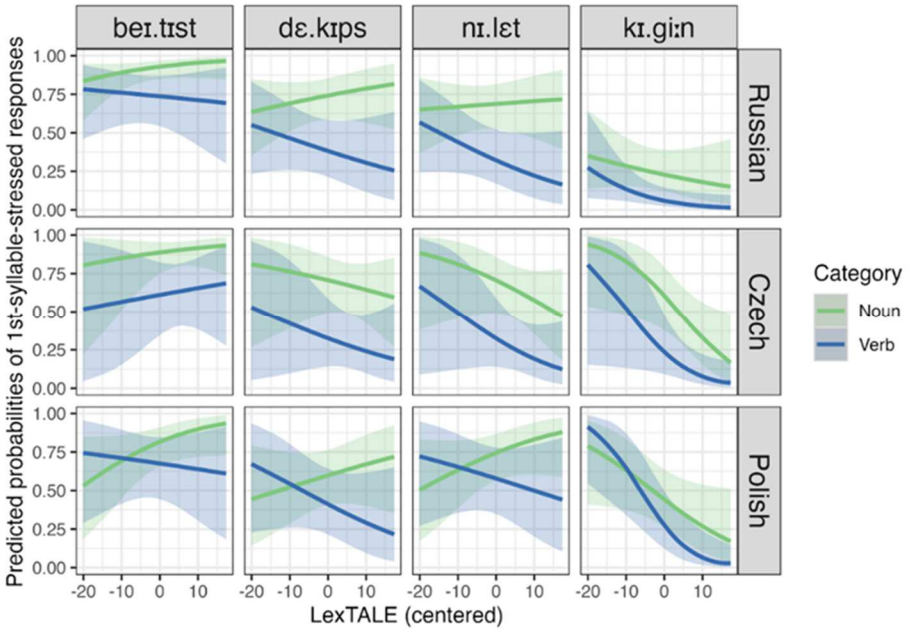

Figure 1. Probabilities of initial-stress responses predicted by a mixed-effect logistic regression model

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ASSESSING SMARTPHONE SPEECH RECOGNITION ACROSS DIVERSE ENGLISH ACCENTS: A PRELIMINARY STUDY

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Voice-activated artificial intelligence in smartphones is making spoken human-device interactions increasingly common, with many users utilizing these systems for everyday tasks such as creating shopping lists, dictating messages, or querying information (Ammari et al., 2019). The success of these interactions relies heavily on the accuracy of speech recognition technology embedded in devices, which can be significantly affected by accents and dialects.

Recent advancements have improved the recognition of various accents beyond standard British or American English, driven by the need to ensure equitable service and representation for diverse communities (Choe et al., 2022; Koenecke et al., 2020). Although some automatic speech recognition (ASR) systems embedded in smartphones offer recognition for certain second language (L2) English accents (Lai, 2021), research on their performance remains limited (Chan et al., 2022; Del Rio et al., 2023; Tadimeti et al., 2022).

This work presents preliminary findings from a study assessing the performance of common smartphone speech recognition systems with respect to a range of L1 (native) and L2 (non-native) English accents. The study utilized 36 audio clips from the CIRCE corpus[1], which consisted of the same short text read aloud by male and female speakers of four L1 and nine L2 English accents. The L1 accents included Standard American, African American, Standard British, and Multicultural London English, while the L2 accents covered Indian, Nigerian, Bosnian, Italian, Turkish, Ukrainian, Chinese, German, and Russian. Each clip averaged 0.32 seconds in length.

To simulate typical user experiences, the research evaluated Apple's Siri voice recognition for two everyday tasks: message/note dictation and voice search. The audio clips were played from a laptop with voice recognition activated on an iPhone using the Notes app. Siri's different English locales[2] (USA, UK, Australia, Canada, Japan, India, New Zealand, Singapore, and South Africa) were tested for each accent. Each clip was played three times, resulting in a total of 702 transcripts.

The study measured transcript accuracy using the Word Error Rate (WER) to compare and evaluate the performance of ASR systems. This new and unique comparable speech corpus provided insights into which L1 and L2 English accents are best recognized by common smartphones, as well as a comparative analysis of different automatic recognition models of local Englishes. Additionally, these preliminary results were compared with existing literature on human intelligibility of L1 and L2 accents (Verbeke and Simon, 2023).

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SYSTEMATIC MEASUREMENTS OF FORMANT VALUES ACROSS THE CONTINUUM OF VOWEL ARTICULATION BASED ON RENDERINGS OF CARDINAL VOWELS BY DIFFERENT PHONETICIANS

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Attempts to create a reference system for vowel articulation, which began in the nineteenth century, were systematized by Jones (1914, 1917a, 1917b), who proposed the Cardinal Vowel System. Initially, the system included 16 items, but in the current version of the IPA Vowel Diagram, it encompasses 28 reference vowels. Acoustic measurements of these vowels available in the literature are quite limited in scope, typically focusing only on rough estimates of the first two or three formants for the Primary, and sometimes Secondary, series articulated by one or two male phoneticians (Koffi, 2018; Lindblom & Sundberg, 1969; Thomas, 2017; Vaissière, 2009, 2011).

This study presents a comprehensive acoustic analysis of Cardinal Vowels pronounced by a diverse group of 20 phoneticians, including both male and female speakers. The primary aim was to obtain reliable measurements of the first three formants across the entire continuum of vowel articulation. The methodology was designed to achieve the highest possible precision. This involved carefully selecting recordings based on articulatory quality, evaluating measurement outcomes within the broader context of other vowels, and applying "average spectra" and "average quasi-spectrograms" to correct any inaccuracies that are difficult to detect objectively when analyzing individual recordings in Praat.

The results provide the most accurate formant measurements to date across the vowel articulation continuum for both men and women. The data reveal consistent patterns across speakers, with expected gender differences in absolute values but similar relative formant structures. Additionally, the study highlights the significance of the formant merger phenomenon in acoustic analysis, identifying specific regions in the vowel space where this issue is particularly prevalent.

These findings may serve as a reference framework for the acoustic analysis of vowels in natural languages and could be especially useful for comparing vowel production measurements across different languages and dialects. Moreover, to facilitate further research and independent verification, a software application freely available at "formantsguide.pythonanywhere.com" has been developed. This tool allows users to explore the data gathered in this study in greater detail and generate customized average spectra and quasi-spectrograms.

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COGNATE STATUS IN L3 NORWEGIAN TONE PRODUCTION

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Cognate status can affect phonological performance in that cognates are more prone to non-facilitative CLI compared to non-cognates (e.g., Lemhöfer and Dijkstra 2004). Mora and Nadeu (2012) found that Spanish–Catalan bilinguals produced a higher Catalan mid front vowel (with CLI from the higher Spanish mid front vowel) in Spanish–Catalan cognates than in non-cognates. In multilingual studies, Bartolotti and Marian (2019) found an effect of cognate status while teaching an artificial language to Spanish–English bilinguals. Cognate vocabulary suffered a phonological disadvantage as its pronunciation was less accurate at least at the beginning of the learning process. The similarity of the L3 word to both background languages was more costly than its similarity to one background language. On the other hand, Sypiańska (2022) found that cognate status only affected the production of L3 Polish lateral in Ukrainian-Russian bilinguals in combination with the bilinguals' degree of language dominance.

The current study was aimed to further understand the effect of cognate status on L3 production. We investigated L3 Norwegian tone production in a group of L1 Polish, L2 English, L3 Norwegian speakers (N=15). The study was guided by the following research question:

RQ: Is there an influence of cognate status on the production of L3 Norwegian tones?

We divided the Norwegian vocabulary into four conditions. Condition 1 included cognates across all three languages (Polish/English/Norwegian) with the prediction that triple cognates are the most difficult for L3 Norwegian tone production and will show cross-linguistic influence from the background languages. Condition 2 and 3 comprised L2/L3 and L1/L3 cognates respectively, thus should be easier to produce on target. Condition 4 included Norwegian non-cognates with Polish/English and were predicted to be the easiest to pronounce on target. Cognateness was measured by means of the Levenshtein distance (LD) (Levenshtein, 1966) operationalized following Carrasco-Ortiz et al. (2019) who determined cognates' degree of overlap for both phonological and orthographic forms. Both Norwegian tones were included in the design (Accent 1: L*H accent and Accent 2 H*LH). We measured F0min and F0max in each word by means of a Praat script (Toshio 2009). We then calculated F0 range (F0max-F0min) and compared the performance of the multilinguals with that of Norwegian native speakers with one sample t-tests separately for each accent and condition. The results revealed a complex picture of L3 tone production that was contrary to the predicitions. Since cognate status in L3 production may play a minor role that is dependent on other factors further analyses will include the combined effect of cognate status and level of proficiency.

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COMPREHENSIVE VISUAL AND AUDITORY FEEDBACK IN SUPPORT OF TEACHING/LEARNING PRONUNCIATION: INTRODUCING ACCENT EXPLORER

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In examining methods of reducing intelligibility-impacting pronunciation issues, increasing evidence indicates that explicit pronunciation instruction (PI) and corrective feedback (CF) are beneficial (Lee, Jang, and Plonsky, 2015; Sardegna and McGregor, 2022). While providing one-on-one PI and CF to each student, focusing on the student's individual pronunciation challenges, is ideal, most pronunciation learning contexts (*e.g.*, university pronunciation classes) involve relatively high student-to-teacher ratios, making extensive one-on-one PI and/or targeted CF prohibitively time consuming.

Computer-assisted pronunciation training (CAPT) offers the promise of mitigating that time crunch. To realize that promise, CAPT needs to serve as a force multiplier for the teacher – helping learners to understand their individual pronunciation issues, offering relevant practice opportunities, and providing useful CF, where "useful" implies that the feedback is targeted and actionable (providing insight on how to improve). Unfortunately, recent research (Walesiak & Talley, 2024) finds that relatively few of the currently available CAPT apps offer significant amounts of targeted/actionable feedback. Some ambitious teachers attempt to fill that feedback gap via available general purpose tools (*e.g.*, Praat, Google speech-to-text, Audacity,…), but the set-up and operation of such tools can be daunting for students, and their outputs (spectrograms, waveforms,...) can be difficult for non-experts to interpret.

This talk discusses and illustrates Accent Explorer (AE) a new tool designed specifically to help make individualized PI and CF a more manageable endeavor. AE does not attempt to be a pronunciation course, nor is it an instructional methodology. It is just a tool which, via its extensive visualization (and auditorialization) of significant pronunciation related phenomena and its extensive AI-supported annotation capabilities, aims to facilitate student understanding of the various components of accent (and the results of efforts to modify them). AE additionally provides some student management dashboard functionality for teachers. While its AI-based functionality is integral to the attempt to serve as a force multiplier for the teacher, AE is intentional with respect to maintaining teachers' agency regarding their students' pronunciation education – *i.e.*, it attempts to assist, not to replace, the teacher.

We will survey the range of affordances incorporated into AE's student and teacher apps. These include, among others, student/teacher sharing of recordings/feedback, detailed (supra-)segmental issue call-outs, visualization/auditorialization of prosodic elements, narrative feedback regarding observed issues with suggested mitigation strategies, and

summarization in support of (diagnostic, formative, and/or summative) assessments by the teacher. Active discussion of potential uses, and missed opportunities, will be encouraged.

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THE POLITICS OF PRONUNCIATION MODELS: CONTEXTUAL ISSUES FOR PRONUNCIATION TEACHERS

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Pronunciation instructors and researchers must take concerns about linguistic justice seriously and formulate well-considered, conscientious responses to them. This presentation contributes to the discussion of why this is crucial, because it has been argued that, in its attachment to the language norms of privileged groups, all branches of English Language Teaching (ELT) directly or indirectly help to perpetuate linguistic inequalities. When these practices disadvantage non-native speakers or non-Whites, they have been described as variously "native-speakerist" (Holliday, 2005) or "inherently racist" (Jenks & Lee, 2019: 202). It is especially the ELT branch of pronunciation training that is singled out for such criticism. Ramjattan (2024, p. 318) argues that it is wrong to assume pronunciation classrooms are free of racism, claiming that instructors' "inaction" sustains racism in ELT. Concerns also exist that pronunciation training can harm a learner's "self-image and is thus unethical" (Porter & Garvin, 1989, p. 8), echoing earlier critics like George Bernard Shaw in *Pygmalion* (1913).
Researchers have already amply responded to charges of native-speakerism in pronunciation teaching by adjusting targets to reflect learners' L2 accents (Jenkins, 2000), emphasizing distinctions between nativeness and intelligibility (Levis, 2005, 2020) and by focusing on non-native speakers' needs as listeners (Henderson, 2021). Less often, it is argued that pronunciation instruction can protect learners from acceptability judgments, particularly from other non-native speakers. Clearly, if empowering non-native speakers is a key goal, their needs and perceptions should guide pronunciation model choices. There is, however, always the danger of prioritizing specific local or national non-native pronunciation norms over any other, especially in multilingual contexts where interests may conflict.

The issue of ELT perpetuating language norms as linked to the spread of English through slavery, colonialism, and economic dominance also needs addressing. However, rather than generalising about the moral implications of teaching high-prestige pronunciation models, it is imperative to differentiate between the contexts in which they are used. For example, the experience of non-native speaker immigrants facing racialised accent discrimination in majority English-speaking countries differs significantly from that of privileged language learners in Europe and elsewhere, whose accent sensitivities may be shaped by the prestige of their own L1s. Solidarity among non-native groups may be limited, and some non-native speakers may even hold racialized or monolithic views of an ideal native speaker (thus erasing the presence of non-White speakers of high-prestige accents). Based on these and other contextual differences, it will be argued that the default portrayal of non-native speakers as oppressed by supremacist native-speaker norms may be much less relevant to some pronunciation teachers' practices and experiences than to others.

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DEVELOPING COMPETENCE FOR L2-ACCENTED ENGLISH PRONUNCIATION EVALUATION THROUGH PEER FEEDBACK TRAINING

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Research on the effectiveness of peer corrective feedback (PCF) has shown that PCF is beneficial for language learning especially when it is combined with peer feedback training (Sato & Lyster, 2012; Sippel & Jackson, 2015; Sippel, 2019) and metacognitive instruction (Fujii et al., 2016). Little is known about the impact of PCF and peer feedback training on pronunciation learning – the study by Martin and Sippel (2021) is one notable exception with their results indicating that peer feedback training benefits pronunciation

development. What is yet to be investigated is whether and how peer feedback training enhances the accuracy and quality of PCF (Iwashita & Dao, 2021).

This study investigates the impact of peer feedback training on learners' ability to accurately evaluate L2-accented speech. A pretest–intervention–posttest design was employed with 37 native Macedonian university students majoring in English as a foreign language, randomly assigned to an experimental (n=18) and a control (n=19) group. Only the experimental group underwent a three-week peer feedback training involving metacognitive instruction, peer feedback instruction, presentation of three types of peer feedback, peer feedback activities, critical listening, and phonemic awareness activities. Targeted pronunciation features included six segmental markers of foreign accent in Macedonian-English accented speech (Kirkova-Naskova, 2010): a) vocalic markers: vowel shortening /iː > i/, vowel raising /æ > e/, and vowel lowering /ʌ > a; ə > a/; and b) consonantal markers: final obstruent devoicing /d > t/, fricative dentalisation /θ > t; ð > d/, and plosive dentalisation /t, d/. Post intervention, the participants also filled in a questionnaire about their views about the training.

The quantitative results revealed that the peer feedback training improved learners' ability to correctly evaluate vowels better than consonants, suggesting improvement of vowel over consonant perception. Additionally, two vocalic features are high functional load sound pairs which may be indicative of the importance of the functional load concept in pronunciation development and pronunciation instruction. The results from the qualitative analysis of the questionnaire data showed the participants' perceived benefits of the training such as, increased phonemic awareness, self-assessed pronunciation improvement, and enhanced confidence in their judgments. These findings suggest practical implications for teaching pronunciation, particularly in the choice of pronunciation features and preparation of syllabi at university level, as well as at lower educational levels. Furthermore, incorporating peer feedback training in pronunciation programs could de-centralise the teacher's role and facilitate autonomous learning.

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AN OVERVIEW OF SELECTED APPROACHES TO ACCENTISM

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Accentism, or linguistic discrimination based on an individual's accent, has become a field of study both in sociolinguistics and education. The overview of selected approaches to accentism examines how accentism reflects broader social hierarchies, privileging certain accents while marginalizing others, based on class, ethnicity, or geographic origin in the UK and in Poland. It addresses the psychological aspects, emphasizing how biases related to accents affect interpersonal perceptions and decision-making in both professional and social contexts. Accentism as a form of discrimination finds its roots in post-colonialism and is often accompanied by other forms of discrimination on, e.g., social class background (cf. Levon et al., 2021). The 2020 report *Accent Bias in Britain* conducted by scientists of Queen Mary University of London and the University of York revealed that British citizens tend to underrate non-standard working class accents and overrate accents perceived as prestigious. Similarly, studies by Lev-Ari and Keysar (2010) and Hanzlíková and Skarnitzl (2017) demonstrated that non-standard accents can diminish speaker's perceived credibility. In Poland, the report *Uprzedzenia w Polsce* (2015) addressed attitudes towards dialects and standard Polish, showing that while both are broadly accepted, there remains a stronger expectation to use standard language in workplaces and reserve local dialects for home settings (Hansen, 2014). By examining accentism across sociolinguistic and psychological perspectives, this study highlights the pervasive influence of linguistic biases, emphasizing the need for a greater awareness and interventions to promote inclusivity in both social and professional domains.

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EXPLORING THE STATUS OF THE VOICELESS LABIOVELAR FRICATIVE /ʍ/ IN CONTEMPORARY AMERICAN ENGLISH

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The concept of correlations between linguistic variables and social factors has been widely acknowledged and studied since the 1920s, particularly following the pioneering research of William Labov. His investigation into rhoticity in New York City demonstrated that the linguistic variable /r/ serves as a marker of social stratification (Labov, 1972), providing a foundational framework and inspiration for the following study.

The primary objective of this research was to examine the use of the linguistic variable /ʍ/, a voiceless labiovelar fricative, in relation to various social factors, including the speakers' age, regional background, speech formality, and the prestige attributed to this feature by the speakers. Through this analysis, the study seeks to evaluate the current status of the voiceless labiovelar fricative /ʍ/ in American English.

The analysis begins with an overview of the sociolinguistic background, emphasizing variables such as age, regional variation, formality, and prestige (Trudgill, 1975; Hudson, 2007; Romaine, 2000). Following this, the study delves into the complex history of the linguistic variable under investigation, exploring its origins, evolution, and integration into the American English variety (Hickey, 2004).

The study comprises 17 subjects and 34 recordings of their speech – two recordings of different level of formality per each speaker. All of the analyzed recordings are available online. The analysis focuses on *wh*-words, such as e.g. *why*, *while*, *whale* or *white*. In the first part of the study, the number of *wh*-context words in each speech is contrasted with the actual production of the researched variable. The second part of the study concentrates on the comparison of the obtained qualitative data with selected social variables.

The findings of this study not only contribute to a deeper understanding of the use of the voiceless labiovelar fricative in American English but also offer potential pedagogical insights regarding its inclusion in phonetics curricula for American English.

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A PRONUNCIATION AND SPEECH COACHING (PSC) APPS SEARCH ENGINE FOR TEACHERS: A RESEARCH-DRIVEN SOLUTION

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Although language technologies for L2 pronunciation pedagogy are diverse and increasingly sophisticated, some fail to deliver targeted content or genuinely personalised feedback (Fouz-González, 2024; Walesiak & Talley, 2024). The challenges related to incorporating apps into teaching pronunciation are discussed in the literature (García et al., 2020; Inceoglu, 2022), with teachers indicating that they struggle to know which technologies to include in their pedagogy (Metruk, 2022).

To assist teachers in finding suitable resources to meet their needs, we have embarked on a research project (Walesiak & Talley, 2024) devoted to the assessment mechanisms and feedback affordances employed in widely available pronunciation and speech coaching (PSC) apps, i.e. apps which aim to improve users' articulation, pronunciation or spoken communication, sometimes via utilization of speech recognition (SR), text-to-speech (TTS) and/or Artificial Intelligence (AI) technologies. Some of these apps evaluate users' spoken attempts and provide feedback or suggestions for improvement, while others may focus solely on a clickable practice material. In the talk, we present how a sequential research design has been employed, beginning with a qualitative phase that included investigating a range of mobile and web PSC apps, followed by a quantitative analysis of a selected subset.

The talk extends prior work on Mobile-Assisted Pronunciation Training affordances (Walesiak, 2021) by introducing a research-driven solution for educators that allows teachers to search for the affordances (Sobkowiak, 2012) and other characteristics of PSC apps, helping them find apps which will appropriately support their didactic needs. The PSC apps search engine currently selects from Android and web apps based upon their content and feedback types. By filling an information gap regarding mobile and web apps, the tool empowers educators to better assess app suitability for practice in class or outside of school settings, encouraging a more informed, research-aligned approach to pronunciation instruction.

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PARTIAL PHONOLOGICAL ADAPTATION OF ENGLISH LEXICAL MATERIAL IN POLISH: EVIDENCE FROM TEXT-TO-SPEECH SYSTEMS AND ATTESTED COMMUNITY PRONUNCIATIONS

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Ln material (e.g. names) embedded into an L1 input string is usually treated in two ways by Text-to-Speech (TTS) systems. In one approach, transcriptions are taken from the source-language dictionary and mapped onto the recipient phonology, usually on the basis of a phonological comparative analysis. Thus, embedding English *medical* in a Polish string results in /ˈmɛdɨkɛl/, since English kit maps onto Polish /ɨ/ (correctly from a phonological perspective), while /ə/ maps onto /ɛ/. The second approach (sometimes applied only to items recognized as out-of-vocabulary but not foreign) is to use the recipient language's grapheme-to-phoneme (G2P) rules; here, this would produce /mɛˈdits͡al/, since <c> is /ts͡/ in Polish.

However, some actually attested patterns cannot be captured by either of the two approaches. In the above example, the typical attested form is /ˈmɛdikal/: Polish G2P gives /i/ for <i> and /a/ for <a> but English G2P is preserved for <c>, along with stress. While these forms are usually treated as "common mispronunciations" (cf. Sobkowiak 2004) in English language teaching, they are (anecdotally) preferred by TTS users when embedded in Polish; typical domains include satellite navigation systems. As such, they must be included separately in dictionaries for TTS in Polish if ecological validity is desired.
The present paper explores these patterns.
A corpus of about 22,000 Polish business names from Warsaw was harvested using the Overpass Turbo API for OpenStreetMaps. More than 20% were manually judged to contain English(-like) lexical material and became the dataset for analysis. All items with a frequency greater than 1 were tested within Polish carrier sentences using two major TTS systems (Microsoft and Google), and – wherever possible – compared with forms attested in Polish using the services Filmot and YouGlish, enabling YouTube subtitle searching.
While the analysis is ongoing, the following patterns are discernible. (1) There was general agreement in treating kit as /i/ and /ə/ according to Polish G2P; the TTS providers seem to follow community norms, not phonological mappings. (2) There was disagreement in

the treatment of some source phonemes (e.g. trap, happy and goat) and lexical stress. (3) As could be expected, there was some variability in the attested productions but also between individual TTS voices.
The next steps will be to obtain assessment of the TTS outputs from Polish judges; extend the analysis to other domains, such as brand names and titles; and to explore the TTS pronunciations of items of non-English foreign origin.

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RHYTHM IN ASSAMESE INDIAN ENGLISH

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Prosodic characteristics are important to the perception of speech as accented (e.g., Munro 1985, Mareüil et al 2006), and prosodic rhythm measures of English varieties differ widely (e.g., Deterding 2002, Low 2010). New Englishes around the world have shown a general tendency towards greater syllable-timing than British and American Englishes, and Indian English is no exception (Fuchs 2013). Furthermore, while variation within Indian English has been documented for segments and some prosodic characteristics, Sirsa & Redford (2013) suggest that Indian English rhythm is distinct from and not influenced by the first languages (L1s) of its speakers. Regnoli (2023), however, found L1 Marathi and Telugu English speakers differed in rhythm measures %V and VtoV. We extend this work to Assamese Indian English, to measure its rhythmic characteristics and compare those measures both to the speakers' L1 and to a variety of Englishes.
Twenty Indian English speakers, all with Assamese as their L1, were recorded reading two paragraph passages in English and one passage in Assamese. Data from nineteen speakers has been analyzed thus far. The group can be subdivided according to gender and educational background. There are nine female and ten male speakers; of the nineteen, eight attended English-medium schools throughout their education while eleven attended Assamese-medium schools from K-12. After segmentation and annotation, we used a Praat script to analyze several measures of rhythm (%V, nPVI, rPVI-, ΔC, ΔV, Varco-V,

Varco-C). Our preliminary findings show that the measures of %V and NPVI-V significantly differ for readings in Assamese vs. English, for speakers of both educational backgrounds. We also find that medium of education makes a difference for some measures (nPVI-V, ΔC, and Varco-V) but not others (%V, NPVI-V, ΔV, Varco-C).
We will provide the first measures of rhythm in Assamese Indian English. Furthermore, we will compare our results with other rhythm measures of Assamese (Dihingia 2020), as well as those of other varieties of Indian English (Regnoli 2023) and Englishes around the world, both newer (Thai English in Sarmah et al. 2009, Singapore English in Keng et al 2005) and established (Ramus et al 1999, Deterding 2002, Grabe & Low 2002, Menezes 2003, Low 2010). Our findings will thus provide new data that enable us to add to the discussion of variation within Indian English rhythm and to evaluate the role of gender and the impact of medium of instruction on the acquisition of a prosodic feature in Indian English.

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CREAKY VOICE IN POLISH-ENGLISH BILINGUAL SPEECH: PRODUCTION, PERCEPTION, AND ATTITUDES

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Research in L2 speech acquisition has largely focused on segmental features of language. However, one area that remains relatively underexplored is how the voice itself might vary across languages, and whether L2 learners adapt to the target language's norms for non-modal phonation, particularly creaky voice. This issue is becoming increasingly relevant due to the growing prevalence of creaky voice among native English speakers in recent years (Yuasa 2010; Wolk et al. 2012).
Polish is typically characterized by a "bright" voice quality (Wagner & Braun 2003), predominantly utilizing modal voice. However, a recent production study of Polish-English bilinguals revealed that, despite creaky voice being a stigmatized feature in English (Anderson et al. 2014), it appears in both their L1 and L2 productions, becoming increasingly consistent in English as phonetic training in the L2 progresses.
The aim of the present study was to complement the acoustic data on Polish-English bilinguals with their perceptions of creaky voice in English and their attitudes towards creaky phonation. To achieve this, we are conducting a Qualtrics test, which consists of two components: an attitude assessment, where participants rate speech stimuli on several Likert scales (see Fig. 1 below), and a qualitative section, where they respond to open-ended questions about creakiness.

In the former, preliminary results seem to suggest that, indeed, the presence or absence of creaky voice has some influence on how the speaker is perceived (Fig. 1), however the tendencies differ (e.g. compare S119 vs. S106). In order to find out whether it was only creakiness playing a role in the scores or if there are some other parameters having any impact, we are planning an acoustic analysis of the stimuli, using VoiceSauce.

In the latter, our respondents have been found to:

- Generally know what creaky voice is and be able to define it;
- *Overwhelmingly* (92%) associate it with American English (despite having been exposed to a large number of British samples containing creaky voice), mentioning Valley Girls, The Kardashians, carelessness, and being “nonchalant”;
- Generally see it as likely undesirable and not important a feature to have in one’s speech, claiming it might make them sound “less smart” and be perceived negatively;
- Generally be convinced that they do not possess it themselves in English (92%) but claim they are not sure about Polish (70%).

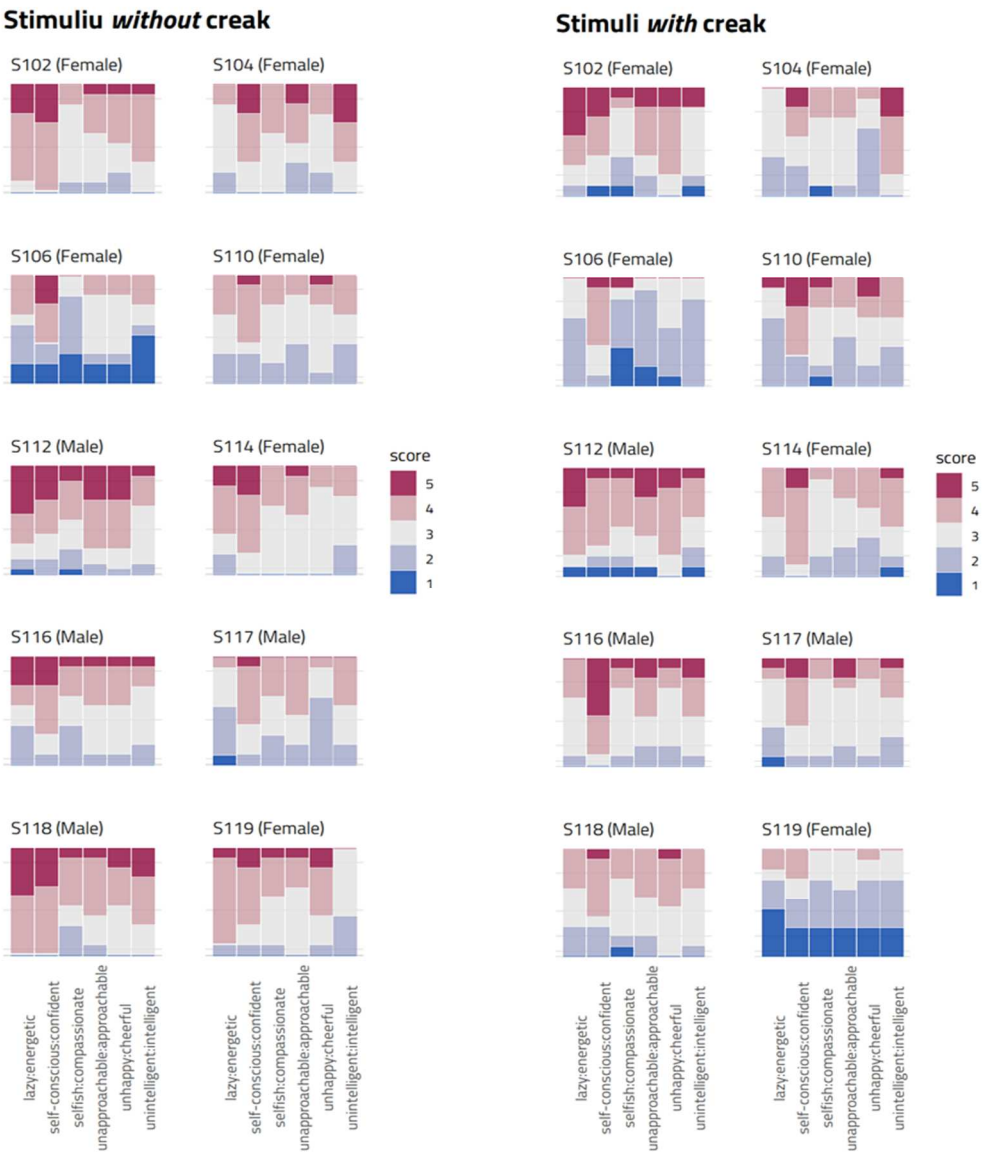

Fig. 1. Attitude scores: by-speaker comparisons of items without (left) and with (right) creak present.

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