https://www.doi.org/10.21272/Ftrk.2024.16(1)-6

STRATEGIES FOR LEARNING PRONUNCIATION ONLINE: SERBIAN EFL LEARNERS' PERSPECTIVE

Jerotijević-Tišma Danica,
University of Kragujevac, Serbia
ORCID ID https://orcid.org/0000-0002-4973-0405
Corresponding author: danica.tisma@filum.kg.ac.rs

Abstract. *Digital tools and online teaching platforms offer vast opportunities for language learning, yet, even though many indeed focus on pronunciation practice only, there seems to be a noticeable lack of research supporting their effectiveness. The current paper investigates Serbian EFL learners' views on the possible strategies employed for successful online pronunciation practice. A total of 105 tertiary-level English-major students at the Faculty of Philology and Arts, University of Kragujevac, Serbia, participated in the pre-designed survey concerning online learning strategies with a particular focus on pronunciation practice. The primary instrument was a questionnaire consisting of three parts: part one concerned with the demographic information on the sample, part two containing statements related to offline pronunciation learning strategies and part three focusing on online pronunciation learning strategies. Based on the results, dominant strategies for pronunciation practice in face-to-face classrooms are directed toward improving individual sounds and intonation. Thus, both segmental and suprasegmental features are incorporated in the students' pronunciation instruction. When it comes to the pronunciation learning strategies online, students seem to prefer cognitive and metacognitive strategies, while social strategies seem to lack popularity among Serbian EFL students. In general, a relatively even distribution of responses was noted for both ends of the scale for the majority of proposed strategies which is explained by the specific professional orientation of the respondents. The findings underscore important pedagogical implications not only for learning English online, but for the improvement of pronunciation practice in the Serbian EFL context in general.*

Keywords: *learner strategies, EFL, Serbian students, distance learning, pronunciation.*

Received: *12 May, 2024*
Revised: *20 May, 2024*
Accepted: *25 May, 2024*
How to cite: Jerotijević-Tišma Danica (2024). Strategies for Learning Pronunciation Online: Serbian Efl Learners' Perspective. *Philological Treatises*, *16*(1). https://www.doi.org/10.21272/Ftrk.2024.16(1)-6

СТРАТЕГІЇ ВИВЧЕННЯ ВИМОВИ ОНЛАЙН: ПОГЛЯД СЛУХАЧІВ СЕРБСЬКОЇ МОВИ ПРОФЕСІЙНОГО СПРЯМУВАННЯ

Єротієвич Тішма Даніца,
Університет у Крагуєваці, Сербія
ORCID ID https://orcid.org/0000-0002-4973-0405
Автор, відповідальний за листування: danica.tisma@filum.kg.ac.rs

Анотація. *Цифрові інструменти та навчальні онлайн-платформи пропонують широкі можливості для вивчення мови, проте, хоча багато з них зосереджені лише на практиці вимови, відчувається помітний брак досліджень, які б підтверджували їхню ефективність. У цій статті досліджуються погляди студентів, які вивчають сербську мову як іноземну, на можливі стратегії, що застосовуються для успішної вимовної практики онлайн. У заздалегідь розробленому опитуванні щодо стратегій онлайн-навчання з особливим акцентом на практику вимови взяли участь 105 студентів факультету філології та мистецтв Університету Крагуєваца, Сербія, які вивчають англійську мову на третьому курсі. Основним інструментом було опитування, що складалося з трьох частин: перша частина - демографічна інформація про вибірку, друга частина - твердження, пов'язані зі стратегіями навчання вимови офлайн, а третя частина зосереджувалася на стратегіях навчання вимови онлайн. Згідно з результатами, домінуючими стратегіями для практики вимови в очних класах є спрямованість на покращення окремих звуків та інтонації. Таким чином, як сегментарні, так і надсегментарні особливості включені в навчання вимови студентів. Що стосується стратегій навчання вимови онлайн, студенти віддають перевагу когнітивним та метакогнітивним стратегіям, тоді як соціальні стратегії не користуються популярністю серед сербських студентів, які вивчають англійську мову професійного спрямування. Загалом, для більшості запропонованих стратегій спостерігається відносно рівномірний розподіл відповідей по обидва боки шкали, що пояснюється специфічною професійною орієнтацією респондентів. Отримані результати підкреслюють важливі педагогічні наслідки не лише для вивчення англійської мови онлайн, але й для покращення вимовної практики в сербському контексті вивчення англійської мови професійного спрямування загалом.*

Ключові слова: *стратегії навчання, англійська мова професійного спрямування, сербські студенти, дистанційне навчання, вимова.*

Отримано: *12 травня 2024 р.*
Отримано після доопрацювання: *20 травня 2024 р.*
Затверджено: *25 травня 2024 р.*
Як цитувати: Єротієвич Тішма Даніца (2024). Стратегії вивчення вимови онлайн: погляд слухачів сербської мови професійного спрямування. *Філологічні трактати*, *16*(1). https://www.doi.org/10.21272/Ftrk.2024.16(1)-6

Introduction

The unexpected and sudden changes introduced to the educational system due to the COVID-19 pandemic, caused lasting and irreversible reconsideration of the traditional classroom setting making the virtual component almost indispensable even in the aftermath (Moser et al., 2021). Teachers were forced to readjust their teaching methods overnight, imposing thus numerous challenges due to the lack of sufficient equipment and technological training. Simultaneously, since they did not know how long the pandemic would actually last, they had to evaluate the available tools online fairly quickly to suit the needs of students and their level of proficiency. Nevertheless, what seems to be an irrefutable fact is that student engagement plays a crucial role whether they are learning offline or online, with or without the use of technology (Stone, 2019; Demosthenous et al., 2020).

With the re-evaluated role of pronunciation in speech recognition, pronunciation is no longer the most neglected area of English language teaching (Derwing, 2018). Students are encouraged to practise pronunciation through various in- and out-of-class activities. However, the situation was significantly different throughout the history of the development of English language teaching approaches. From Audiolingualism, when it was considered extremely significant, to the Communicative Language Teaching variants, when fluency was emphasized over accuracy, considerable oscillations were caused in interest creatingparticular reluctance among language educators to employ available tools for perfecting target sounds production.

The digital environment offers numerous opportunities for pronunciation practice, the effectiveness of which is yet to be assessed and confirmed. For example, Inceoglu (2020) found that online pronunciation practice benefited fluency and segmental production, but did not improve accent ratings by native speakers. It is only with specifically designed pronunciation training that the production actually improves even in online settings (Martin, 2020). Furthermore, studies report more positive results in face-to-face classroom settings than online (Cralidis & Salley, 2020), with the majority of students expressing a preference for face-to-face pronunciation practice or a combination with online tools (Malpartida, 2023). Selection of learning materials, as well as active collaboration, appear to be a prerequisite because they aid knowledge retention and students' motivation (Paulsen & McCormick, 2020). A few years before the outbreak of the pandemic there was an ample increase in the research related to the effectiveness of pronunciation instruction (Sturm, 2013: Trofimovich, 2013), with a notable gap existing between extensive research and real-time teaching practice. This gap remains yet to be adequately filled.

The available tools targeted at pronunciation practice specifically are various kinds of speech recognition software, pronunciation learning apps and games, digital audio flashcards, youtube and video tutorials, speech analysis tools and online forums, automatic transcription and speech analysis tools, virtual language exchange partners, virtual reality and gamification.

The current study aims to investigate the strategies employed by Serbian EFL learners at the tertiary level of education specifically targeted at online pronunciation practice. The study aspires to potentially fill in the gap of existing research and enhance the teaching practice in Serbia in particular, and possibly extend beyond its borders.

Language Learning Strategies

In the simplest of terms, language learning strategies are specific actions employed by a learner to make learning and acquisition easier, enjoyable and more effective (Oxford, 1990). In the more recent definitions, learning strategies are regarded as conscious, teachable, self-chosen, intentional thoughts and actions for learning both the target language and culture (Oxford, 2017). The importance of language learning strategies is evident in the amount of research devoted to them in the last five or even six decades. Wenden and Rubin (1987) believed language learning strategies incorporated steps and routines to process information in the process of language use. O'Malley and Chamot (1990) defined them as thoughts or behaviors used by language learners to comprehend and retain new information. Nunan (1999) regarded language learning strategies as mental and communicative procedures employed by a learner to both learn and use language individually or with the participation of others. Bearing in mind that the successful implementation of learning strategies may directly affect the outcomes of learning, a strong correlation is presupposed between language proficiency and language learning strategies (Kamarul Shukri et al., 2009). Regardless of the chosen framework, language learning strategies are recognized as indispensable in successful target language acquisition.

Following Rubin's classic taxonomy into direct and indirect strategies each containing appropriately structured subcategories, O'Malley and Chamot (1990) divided learning strategies into metacognitive, cognitive, and social/affective ones. The most comprehensive classification of learning strategies can be sought within Oxford's framework

(Oxford, 1990, p. 17) where strategies are divided into direct and indirect ones. Direct strategies have three subcategories: *memory* (creating mental linkages, applying images and sounds, reviewing and employing actions), *cognitive* (practising, receiving and sending messages, analysing and reasoning, creating a structure for input and output) and *compensation* strategies (guessing and overcoming limitations in speaking and writing). Indirect strategies include three subcategories, as well: *metacognitive* (centring, arranging, planning and evaluating learning), *affective* (lowering anxiety, encouraging oneself and taking emotional temperature) and *social* (asking questions, cooperating and empathizing with others).

Studies have extensively focused on examining the interrelationship between strategies and other learner variables. Research findings vary when it comes to gender differences, ranging from those claiming that female students use strategies more frequently than male students (Mohamed Amin, 2000), to those who state completely the opposite (Zamri, 2004). Lee and Oxford (2008) recognized factors such as gender, the major language of study, age and self-perception of proficiency to be of extreme significance. According to the aforementioned authors, a more favourable implementation of language learning strategies was noticed in female students, students who major in humanities, and students who are older and evaluate their own proficiency higher. It goes without saying that learning strategies may vary depending on an individual learner regardless of the learning environment being the same and the teacher exhibiting identical teaching methods. Relevant studies conducted two decades ago demonstrated that compensation strategies are among the most frequently employed ones (Lan & Oxford, 2003). More recent research showed a slight preference towards social and affective strategies (Mahalingam & Yunus, 2016; Al-Kanza'leh, 2019). In a study on vocabulary learning strategies, Alamsari (2020) found the prevalence of metacognitive and cognitive strategies, especially monitoring, planning, retrieval and association making.

Pronunciation Learning Strategies

Pronunciation learning strategies research started with Naiman et al. (1978) and Rivers (1979) and was updated almost two decades later by Droździał-Szelest (1997) who identified six cognitive and four metacognitive strategies pertaining to pronunciation practice. The most prominent ones were repetition and selective attention. According to a study focused on pronunciation strategies, adult learners of Spanish employed twelve different strategies and forty-three tactics for enhancing communication, the majority of which belonged to the cognitive subcategory (Peterson, 2000). Strategies belonging to the memory subgroup are reportedly used by advanced learners only, while the affective strategies were used by beginners. A study conducted on one hundred college EFL students, demonstrated that paraphrasing was one of the most frequent strategies and added more items to Oxford's classification (Derwing & Rossiter, 2002). Teaching learners how to plan and evaluate pronunciation learning was placed above repetition strategies in a study by Vitanova and Miller (2002), strongly advocating the employment of metacognitive strategies. Bukowski (2004) likewise emphasized metacognitive and affective strategies for successful pronunciation improvement. The most popular pronunciation learning strategies according to Pawlak (2008) were repeating after a teacher or recording, listening carefully to a native speaker model and using phonetic transcription. Using a dictionary, reading aloud or writing words down was less popular. Nevertheless, Trendak (2016) showed that memory, social and affective studies were less frequently implemented by learners than metacognitive and cognitive strategies. Some of the more popular tactics were paying attention to proficient speakers, monitoring one's own pronunciation, transcription, reading aloud, and looking up pronunciation in a dictionary. Moreover, Rokoszewska (2012) pointed to the difference in pronunciation strategies used in relation to learners' proficiency. The good students showed a stronger preference for strategy implementation than the less proficient ones. Even though appreciable differences were noted in direct strategies, with good students opting for memory, cognitive and compensation strategies (e.g. memorizing, reviewing, transcribing,

memory association, etc.), even greater differences were found for indirect strategies. The group of students classified as good were better at planning and evaluating their pronunciation learning and they were particularly aware of what they wanted to achieve. However, it was concluded that both groups could benefit from additional strategies training in the future.

Methodology

Research Questions. Research questions proposed in the current study accompany the proposed aims outlined in the introduction of the paper. To analyse the use of pronunciation strategies by Serbian EFL learners, the following questions were formulated:

- What are the most frequently employed pronunciation learning strategies in a traditional (offline) setting by Serbian EFL learners at the tertiary level of education?
- What are the most frequently employed pronunciation learning strategies in an online setting by Serbian EFL learners at the tertiary level of education?

Participants. A total of 105 English-major students at the Faculty of Philology and Arts, University of Kragujevac, Serbia, participated in the study. The sample comprised 57 first-year students and 48 second-year students attending *English Phonetics* and *English Phonology* courses respectively. Throughout the courses, the participants were introduced to various methods for practising pronunciation both face-to-face and online. Table 1 summarizes the participants' demographic data and relevant information related to English learning. To obtain the details on the students' proficiency level the Cambridge[1] General English proficiency test was conducted before the survey. Furthermore, the proficiency level can further be confirmed by the fact that the students have all successfully passed the entrance exam intended at B2 level CEFR.

Table 1. Participants' Demographic Data and Relevant EFL Learning Information

Gender	**Age**	**Proficiency Level**	**Age of Onset of Learning**	**Daily Consumption of the Internet (hours per day)**
Male: 24.76% *Female:* 74.29% *Other:* 0.95%	*Mean*=20.49	*B2:* 41.9% *C1:* 58.1%	*5:* 23.81% *6:* 18.1% *7:* 56.19% *9:* 1.9%	*Less than 2:* 24.76% *2 to 4:* 45.71% *More than 4:* 29.52%

The particular sample was chosen due to the fact that they were all studying English as their major, most often being profiled as prospective teachers. Hence, pronunciation proficiency seems especially important. Furthermore, they were attending academic courses related to English phonetics and phonology, which incorporated frequent and structured pronunciation practice. The participation was voluntary with written consent forms signed before the commencement of the survey.

Instruments and Procedure. The primary instrument used for collecting data was a questionnaire specifically designed for the purpose of the present research. It was adapted from several sources, keeping the specific aims and needs of the participants in mind. The questionnaire contained three parts. The first part contained questions related to the respondents' biographical data and basic information on English language learning (5 questions related to gender, age, proficiency level, age of onset of learning English and the number of hours spent daily on the Internet). The process of obtaining information on the participants' proficiency level has already been explained.

The second part of the questionnaire contained 5-point Likert scale statements related to the pronunciation improvement strategies employed in educational settings offline. The statements were adapted from the *Strategies for Pronunciation Improvement (SPI)*

[1] The test is available online at https://www.cambridgeenglish.org/test-your-english/.

Inventory (Sardegna, 2009; 2012) containing a total of 15 statements in three groups: strategies for improving sounds (items 1-5), strategies for improving polysyllabic words (items 6-10) and strategies improving phrases (items 11-15). The strategies in the former inventory were mostly cognitive, with a few items related to compensation and social strategies. The original inventory was condensed to suit the needs of the present paper since the predominant focus was on pronunciation strategies online. Therefore, the third part of the questionnaire was modified to correspond to Oxford's (1990) framework of learning strategies and it contained a total of 30 5-point Likert scale statements (five per each of the strategies subgroups: memory, cognitive, compensation, metacognitive, affective and social). The questionnaire was distributed in person and online at the end of the winter semester and the beginning of spring semester of the 2023/2024 academic year. The Likert scale answers ranged from 1-completely agree to 5-completely disagree. The obtained data were analysed in SPSS, version 20.0.

Results and Discussion

The results of the questionnaire related to pronunciation strategies implemented while practising in offline settings are presented in Table 2.

Table 2. Pronunciation Learning Strategies Offline

Statement	**Completely agree**	**Agree**	**Neither agree/ disagree**	**Disagree**	**Completely disagree**	**Median**
1. I rely on phonetic symbols to determine what sound to pronounce.	11.4%	20.2%	16.2%	30.5%	21.9%	4 SD=1.33
2. I predict the right articulation by practising in front of a mirror.	3.8%	5.7%	10.5%	37.1%	42.9%	4 SD=1.05
3. I predict pronunciation based on spelling.	43.8%	38.1%	7.6%	4.8%	5.7%	2 SD=1.10
4. I use charts, descriptions, drawings and diagrams to help me pronounce difficult sounds.	31.4%	36.2%	10.5%	10.5%	11.4%	2 SD=1.33
5. I practise pronunciation by repetition and imitation of a teacher or a native speaker.	36.2%	29.5%	9.5%	10.5%	14.3%	2 SD=1.43
6. I place stress marks on top of words to remind me which syllable is stressed.	30.5%	19.0%	6.7%	29.5%	14.3%	3 SD=1.5
7. I consult	38.1%	34.3%	9.5%	10.5%	7.6%	2

textbooks and dictionaries to decide on the correct word stress.						SD=1.25
8. I practise the word stress by alteration of stress placement.	20.0%	28.6%	9.5%	24.8%	17.1%	3 SD=1.42
9. I record myself and listen to the playback, marking the stress mentally.	8.6%	11.4%	11.4%	29.5%	39.0%	4 SD=1.31
10. I read words aloud and practise stress by tapping gestures.	10.5%	26.2%	12.4%	23.8%	37.1%	4 SD=1.39
11. I follow my intuition to figure out the intonation of a phrase.	36.2%	21.0%	14.3%	11.4%	17.1%	2 SD=1.50
12. I repeat intonation after a teacher or a native speaker.	31.4%	25.7%	8.6%	19.0%	15.2%	2 SD=1.48
13. I self-correct my intonation.	27.6%	31.4%	6.7%	15.2%	19.0%	2 SD=1.49
14. I practise reading aloud with an audience in mind.	21.9%	12.4%	23.8%	22.9%	19.0%	3 SD=1.42
15. I request the teacher's/native speaker's feedback on my intonation.	21.9%	16.2%	10.5%	28.6%	22.9%	4 SD=1.5

As can be seen from Table 2, the majority of participants do not rely on phonetic symbols when pronouncing sounds (about 52%) which is interesting bearing in mind that they have all gone through a Phonetics course. Perhaps the cause can be found in the fact that phonemic transcription is still too complex for them to apply on a regular basis. 80% of the participants do not practise in front of a mirror. However, a similar percentage (about 82%) predict pronunciation based on spelling, pointing to the fact that orthography plays a crucial role in foreign language learning. The positive finding is that more than 65% of students use graphic representations to help them with difficult pronunciation. A similar percentage of respondents reported on using imitation and repetition as a strategy in practising pronunciation. About a half of students use different marks to remind them of stressed syllables and it seems encouraging that around 72% of them use dictionaries and textbooks to learn about stress. The latter may be the result of the fact that they are students of philological orientation and are used to using dictionaries and reference books. Almost half of the respondents use the strategy of stress alteration to find the correct syllable that is stressed. Nevertheless, only 20% record themselves in order to listen to the playback and analyse their own pronunciation. This clearly points to the fact that cognitive strategies may be dominating

metacognitive ones in this particular sample and segment of the survey. Slightly above 30% of students read words aloud and more than a half of them (about 57%) follow intuition when deciding on appropriate intonation. The reason behind such a state of affairs may stem from a greater inclination towards authentic input rather than formal knowledge of intonation. Repetition seems to be a preferred strategy for intonation, as well (about 57%), and a similar percentage uses the strategy of self-correction (59%). The remaining 40% may be more focused on fluency, rather than accuracy. Interestingly enough, only about 34% of the respondents actually practise intonation by reading aloud and ask for a teacher's or native speaker's feedback on pronunciation (about 38%).

General tendencies for each subgroup of strategies can be found in Table 3.

Table 3. Offline Pronunciation Learning Strategies Overall

Strategy	Median	SD
Improving sounds	2	1.24
Improving words	3	1.29
Improving phrases	2	1.41

Strategies related to improving sounds and phrases show a slightly higher preference than strategies related to improving phrases. The situation may have resulted from the specific instruction in a traditional setting which may be more focused on practising sounds and intonation, rather than word stress. Regardless, the findings are invaluable for the reorganization of the applied teaching methods and restructuring the learning materials to focus more on word stress exercises.

Table 4 presents the results of the third part of the questionnaire related to pronunciation learning strategies used in online settings.

Table 4. Pronunciation Learning Strategies Online

Statement	Completely agree	Agree	Neither agree/ disagree	Disagree	Completely disagree	Median
1. I memorize pronunciations that I hear online.	23.81%	28.57%	8.6%	24.76%	14.29%	3 SD=1.44
2. I use digital flashcards to remember new words.	5.7%	18.1%	11.4%	20.0%	44.8%	4 SD=1.33
3. I connect the pronunciation of words I see online to the ones I already know.	27.6%	34.3%	14.3%	11.4%	12.4%	2 SD=1.34
4. Whenever I hear unfamiliar words online, I try to create a mental image of them.	21.0%	18.1%	15.2%	26.7%	19.0%	3 SD=1.44
5. I use interactive IPA charts to connect the sound to the image of the phonemic symbol.	19.0%	25.7%	10.5%	18.1%	26.7%	3 SD=1.51
6. I watch movies and listen to music online paying close attention to pronunciation.	37.1%	41.0%	5.7%	11.4%	4.8%	2 SD=1.50
7. When I hear or see a	24.8%	53.3%	4.8%	10.5%	6.7%	2

native speaker online, I imitate their pronunciation.						SD=1.33
8. I use mobile phone apps to practise phonemic transcription.	15.2%	39.0%	14.3%	21.9%	9.5%	2 SD=1.24
9. I check online dictionaries if I don't know how to pronounce a word.	43.8%	33.3%	10.5%	3.8%	8.6%	2 SD=1.22
10. I write down new pronunciations in an online document.	9.5%	12.4%	4.8%	41.9%	31.4%	4 SD=1.29
11. When I see a new word online, I guess its pronunciation based on what I already know.	41.9%	30.5%	4.8%	13.3%	9.5%	2 SD=1.36
12. When I talk to a person or listen to different materials online, I try to guess what they will say next.	3.8%	2.9%	6.7%	51.4%	35.2%	4 SD=0.93
123. When I am not sure about the pronunciation of a word, I guess it and wait for the interlocutor's reaction.	21.9%	20.0%	13.3%	20.0%	24.8%	3 SD=1.51
14. If someone doesn't understand me, I repeat the word more slowly or enunciate sound by sound.	31.4%	33.3%	2.9%	16.2%	16.2%	2 SD=1.48
15. I use gestures to help overcome a communication breakdown.	10.5%	25.7%	19.0%	22.9%	21.9%	3 SD=1.33
16. I pay attention to how words are pronounced in online videos and tutorials.	27.6%	32.4%	10.5%	13.3%	16.2%	2 SD=1.43
17. I watch videos and tutorials on English pronunciation.	35.2%	25.7%	9.5%	19.0%	10.5%	2 SD=1.41
18. I analyse pronunciation of new words I hear on social media or elsewhere online.	19.0%	21.0%	5.7%	38.1%	16.2%	4 SD=1.42
19. I pay special attention to pronunciation exercises in language learning apps.	9.5%	23.8%	5.7%	36.2%	24.8%	4 SD=1.34
20. I think about how online pronunciation practise aids my pronunciation.	24.8%	27.6%	16.2%	18.1%	13.3%	2 SD=1.38
21. Online tutorials and materials help me lower my pronunciation anxiety.	10.5%	30.5%	6.7%	30.5%	21.9%	4 SD=1.36

22. I encourage myself to speak to native speakers online.	26.7%	18.1%	12.4%	28.6%	14.3%	3 SD=1.45
23. Social networking helps me overcome my fear of making a pronunciation mistake.	14.3%	12.4%	32.7%	23.8%	17.1%	3 SD=1.27
24. I talk to virtual language exchange partners about my fears of speaking English.	6.7%	6.7%	8.6%	38.1%	40.0%	4 SD=1.69
25. I am more relaxed when I communicate online than in a face-to-face classroom.	40.0%	30.5%	7.5%	17.1%	4.8%	2 SD=1.26
26. I analyse pronunciation learning apps with my friends.	15.2%	26.7%	15.2%	20.0%	22.9%	3 SD=1.41
27. I analyse English pronunciation by asking native speakers online.	5.7%	15.2%	8.6%	41.0%	29.5%	4 SD=1.20
28. I try to improve my accent while speaking to English online.	15.2%	21.9%	10.5%	20.0%	32.4%	4 SD=1.49
29. I ask for feedback on my pronunciation during an online discussion.	5.7%	14.3%	7.6%	43.8%	28.6%	4 SD=1.18
30. I have a native speaker I communicate with online regularly.	2.9%	15.2%	7.6%	39.0%	35.2%	4 SD=1.38

Memory strategies. Before the discussion on the memory strategies subgroup, it seems useful to note that the participants were specifically instructed beforehand to provide their answers only relative to activities done online. Judging by the results, about 52% of the respondents memorize pronunciations heard online. Around 65% do not use digital flashcards, which is understandable having in mind that they have not been introduced to these tools before their faculty lessons. About 62% of the respondents connect the new pronunciation they heard online with the ones they already know. The respondents are almost equally distributed when it comes to creating a mental image of the words they find online, with a slightly greater inclination to not use this particular strategy. About 44% of the students use interactive IPA charts, which seems to be a favourable progress bearing in mind that they have seen it for the first time during the Phonetics course a few months prior to the research.

Cognitive strategies. 78% of the students pay close attention to pronunciation while watching a movie or listening to music, which is why they seem to be predominant sources of input outside the classroom. Imitation of a native speaker is also a frequently used strategy (about 78%). Mobile phone apps are popular for phonemic transcription practice for about 54% which is again the result of the specific instruction they have had at the faculty. What seems striking, though, is that they have heard about these tools for the first time as first-year university students. The latter points to the need for adequate training of teachers in primary and secondary schools in Serbia. Online dictionaries are quite popular (about 76%) probably due to the easy access and quick information retrieval, while only about one-fifth of the respondents use online tools to write and store information in spite of appreciable availability.

Metacognitive strategies. About 70% of the respondents guess the pronunciation of a new word based on previous knowledge. Only about 7% of the respondents use the strategy of guessing what the interlocutor would say next and this is a strategy with the lowest score in the set. About 42% guess the pronunciation of a word they do not know and wait for the interlocutor's reaction, while about 65% use the strategy of repetition or careful enunciation when there is a lack of understanding. Only 36% of the students use gestures to overcome a communication breakdown, which is of course related their fairly high proficiency in English.

Compensation strategies. 60% of the students pay attention to pronunciation in online videos and 70% of them watch online video tutorials on pronunciation. 40% use the strategy of pronunciation analysis which is another strategy they were taught to use during the Phonetics and Phonology courses. Slightly above 40% of them pay special attention to pronunciation exercises in language learning apps and about 52% think about how online pronunciation practise can help their pronunciation improvement.

Affective strategies. About 51% of the respondents do not find online tutorials and materials useful for lowering anxiety and about 43% (which is similar to the positive results) encourage themselves to speak to native speakers online. This means that about half of the students use this affective strategy. About 50% also disagree that social networking helps them overcome the fear of making a pronunciation mistake. Only 13% of the respondents talk to virtual exchange partners, yet, about 70% feel more relaxed communicating online than in a face-to-face classroom.

Social strategies. When it comes to social strategies, 42% analyse pronunciation learning apps with friends, which is again the result of the specific instruction in the recent past. Only about 20% analyse pronunciation with native speakers online and ask for feedback during an online discussion. About 40% try to improve their accent while speaking online and only 18% have a native speaker they communicate with regularly online.

The results of the general tendencies for each subgroup of strategies can be seen in Table 5.

Table 5. Online Pronunciation Learning Strategies Overall

Strategy	**Median**	**SD**
Memory	3	1.18
Cognitive	2	0.95
Compensation	3	1.03
Metacognitive	2	1.13
Affective	3	1.18
Social	4	1.24

Judging by the reported results, the respondents prefer cognitive and metacognitive strategies, followed by memory, compensation and affective ones. The least used subgroup of strategies seems to be social. This may be the result of the specific conditions of the COVID-19 pandemic in which they were during their secondary education period. The results distribution is quite levelled out which may seem surprising, given the number of respondents and the diversity of the sample in terms of age of onset and proficiency. However, the possible explanation may be found in the specific instruction during the Phonetics and Phonology courses, where they have obtained sufficient information on the benefits of learning strategies. Furthermore, it should be underscored that some of the students are prospective teachers and the variety of strategies they implement may be useful for their future vocation, as well. For the same purpose, there should be more attention paid to the subgroup of social strategies.

Conclusion

The findings of the present study revealed important information about the strategies employed by Serbian English-major students for learning pronunciation. Dominant

strategies for pronunciation practice in face-to-face classrooms seem to be the ones directed toward improving individual sounds and intonation. Hence, it can be concluded that both segmental and suprasegmental features have been incorporated in their pronunciation instruction. Pertaining to the pronunciation learning strategies online, students from this particular sample seem to prefer cognitive and metacognitive strategies, which is in line with previous research (Trendak, 2016; Alamsari, 2020). Social strategies seem to be less popular which confirms previous findings (Mahalingam & Yunus, 2016; Al-Kanza'leh, 2019). In general, a relatively even distribution of responses was noted for both ends of the scale for the majority of proposed strategies, which could be explained by the professional orientation of the respondents, i.e. studies in philology. About 50% of the investigated sample show dominant preference toward the actual strategy implementation.

The results underscore significant pedagogical implications related to pronunciation practice in the Serbian EFL context. Considering the frequency of use of smartphones and the Internet in general, structured pronunciation practice using online tools could be introduced earlier on in education providing students with more opportunities for strategy development. Furthermore, more attention needs to be paid to the development of social strategies in particular.

Potentially, the limitations of the present study lie in the chosen sample. A more diverse population, in terms of professional orientation, could have yielded different results. Future studies should focus on comparing the responses of students attending diverse faculties and investigating the benefits of particular online pronunciation tools.

REFERENCES

Alasmari, N. (2020). The mind of a good language learner: A case study of vocabulary-learning strategies. *International Journal of English Language Education*, *8*(1), 34-46.

Al-Kaza'leh, B. (2019). Exploring language learning strategies of Saudi EFL learners at Saqra University, Saudi Arabia. *Advance in Language and Literary Studies*, *10*(4), 63-71.

Bukowski, D. (2004). On the training of metacognitive and socio-affective strategies – Some implications for teaching and learning English phonetics. In W. Sobkowiak & E. Waniek-Klimczak (Eds.), *Zeszyty Naukowe Państwowej Wyższej Szkoły Zawodowej w Koninie nr 1/2004* (pp. 20-27). Konin: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej w Koninie.

Cralidis, A. L., & Salley, S. W. (2020). A comparison of face-to-face versus online instruction in the correct pronunciation of anatomical terms in communication sciences and disorders. an initial investigation. *Teaching and Learning in Communication Sciences & Disorders*, *4*(1). https://doi.org/10.30707/TLCSD4.1/XPYX7774

Demosthenous, G., Panaoura, R., & Eteokleous, N. (2020). The Use of Collaborative Assignment in Online Learning Environments: The Case of Higher Education. *International Journal of Technology in Education and Science. 4*(2). 108-117. https://doi.org/10.46328/ijtes.v4i2.43

Derwing, T. M. (2018). Putting an accent on the positive: New directions for L2 pronunciation research and instruction. *International Symposium on Applied Phonetics*, 19-21 September 2018, Aizuwakamatsu, Japan.

Derwing, T. M., & Rossiter, M. J. (2002). ESL learners' perceptions of their pronunciation needs and strategies. *System*, *30*(2), 155-166. https://doi.org/10.1016/S0346-251X(02)00012-X

Drożdział-Szelest, K. (1997). *Language learning strategies in the process of acquiring a foreign language*. Poznań: Motivex.

Inceoglu, S. (2019). Exploring the effects of instruction on L2 French learner pronunciation, accentedness, comprehensibility, and fluency: An online classroom study.

Journal of Second Language Pronunciation, *5*(2), 223-246. https://doi.org/10.1075/jslp.18004.inc

Kamarul Shukri, M. T., Nik Mohd Rahimi, N. Y., Mohamed Amin, E., & Zamri, M. (2009). *Hubungan penggunaan strategi pembelajaran bahasa dengan tahap penguasaan Bahasa Arab. JIAE: Journal of Islamic and Arabic Education*, *1*(1), 41-56.

Mahallingam, K., & Yunus. M. (2016). Good language learners and their strategies: An insight. *Proceeding of ICECRS*, Indonesia *1*(1), 359-366. https://doi.org/10.21070/picecrs.v1i1.504

Malpartida, W. M. F. (2023). University students' perspectives of face-to-face and online education: A language learning comparison prior and during COVID-19. *International Journal of Instruction*, *16*(4), 707-724. https://doi.org/10.29333/iji.2023.16440a

Martin, I. A. (2020). Pronunciation development and instruction in distance language learning. *Language Learning & Technology*, *24*(1), 86-106. https://doi.org/10125/44711

Mohamed Amin, E. (2000). *Language learning strategies: a Malaysian context*. Bangi: Penerbit Universiti Kebangsaan Malaysia.

Moser K.M., Wei, T., & Brenner, D. (2021). Remote teaching during COVID-19: Implications from a national survey of language educators. *System*, 97, 102431. https://doi.org/10.1016/j.system.2020.102431

Naiman, N., Frohlich, M., Stern, H.H., & Todesco, A., (1978). *The good language learner*. In *Research in Education Series*, vol. 7, Ontario Institute for Studies in Education (OISE) Press.

Nunan, D. (1999). *Second language teaching and learning*. Massachusetts: Heinle & Heinle Publishers.

O'Malley, J.M., & Chamot, A.U. (1990). *Learning strategies in second language acquisition*. Cambridge: Cambridge University Press.

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. New York: Newbury House.

Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context* (2nd ed.). Routledge.

Paulsen, J., & McCormick, A. (2020). Reassessing Disparities in Online Learner Student Engagement in Higher Education. *Educational Researcher*, *49*(1), 20-29. https://doi.org/10.3102%2F0013189X19898690

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

Peterson, S.S. (2000). *Pronunciation Learning Strategies: A First Look*. Retrieved from the Eric database. (ED495903)

Rivers, W. M. (1979). Learning a sixth language: An adult learner's daily diary. *Canadian Modern Language Review*, *36*(1), 67-82.

Rokoszewska, K. (2012). The influence of pronunciation learning strategies on mastering English vowels. *Studies in Second Language Learning and Teaching*, *2*(3), 391-413.

Rubin, J., & Wenden, A. (1987). *Learner strategies in language learning*. Englewood Cliffs: Prentice Hall.

Sardegna, V. G. (2009). *Improving English stress through pronunciation learning strategies*. Doctoral dissertation. University of Illinois at Urbana-Champaign.

Sardegna, V. G. (2012). Learner differences in strategy use, self-efficacy beliefs, and pronunciation improvement. In. J. Levis & K. LeVelle (Eds.), *Proceedings of the 3rd Pronunciation in Second Language Learning and Teaching Conference* (pp. 39-53). Ames, IA: Iowa State University.

Stone, C. (2019). Online learning in Australian higher education: Opportunities, challenges, and transformations. *Student Success 10*(2), 1-11. https://doi.org/10.5204/ssj.v10i2.1299

Sturm, J. (2013). Liaison in L2 French: The effects of instruction. In. J. Levis & K. LeVelle (Eds.). *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference*, Aug. 2013. (pp. 157-166). Ames, IA: Iowa State University.

Trendak, O. (2016). Application of pronunciation learning strategies among English philology students. I want to sound like a native speaker and I'm working hard to achieve my goal. Faculty of Philology, State University of Applied Sciences in Konin, Poland KSJ *4*(2), 151-169.

Trofimovich, P. (2013). Interactive alignment: Implications for the teaching and learning of second language pronunciation. In J. Levis & K. LeVelle (Eds.). *Proceedings of the 4th Pronunciation in Second Language Learning and Teaching Conference*. Aug. 2012. (pp. 1-9). Ames , IA: Iowa State University.

Vitanova, G., & Miller, A. (2002). Reflective practice in pronunciation learning. *The Internet TESL Journal*, 8(1). Retrieved March 7, 2024, from http://iteslj.org.

Zamri, M. (2004). *Strategy pembelajaran bahasa Melayu di kalangan pelajar sekolah menengah*. Unpublished doctoral dissertation. Universiti Kebangsaan Malaysia.