Pronunciation Learning Strategy Chains: A Qualitative Approach

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1 Introduction

Research on language learning strategies, stemming from Rubin's (1975) and Stern's (1975) observations of good language learners, flourished in 1990s (O'Malley and Chamot 1990; Oxford 1990). It later evolved towards investigating strategies deployed for language skills and sub-skills, such as listening, reading, communication, writing, vocabulary, and grammar strategies (cf. Cohen and Macaro 2007). However, little attention has been paid to the strategies second and foreign language (L2) learners employ when learning target language pronunciation. Indeed, there have only been a limited number of studies exploring pronunciation learning strategies (PLS). In particular, there has been a paucity of empirical research into PLS that is qualitative in nature (Bukowski 2004; Pawlak 2011; Peterson 2000; Osburne 2003; Samalieva 2000; Wrembel 2011). This area therefore undoubtedly calls for further exploration into how L2 learners deploy strategies while learning L2 sounds and prosody.

The supportive role language learning strategies play in the process of L2 learning is indisputable. They facilitate language learning and allow learners to become more autonomous (MacIntyre and Noels 1996; Oxford 1990). Moreover, as Chamot (2001, cited in Thu 2009) points out, LLS research sheds more light on the cognitive, social, and affective processes of L2 learning; and strategic training may help learners become more efficient. In a similar vein, research into how PLS are deployed may be conducive to a better understanding of L2 phonological acquisition, and may contribute to designing a PLS training programme directed towards learners' individualised and autonomous approaches to L2 pronunciation learning inside and outside the classroom.

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Pronunciation learning strategies are perceived as steps or consciously taken actions and thoughts, which are "employed, often in a logical sequence, for learning and gaining greater control over the use of various aspects of pronunciation" (Pawlak 2010: 191). This definition stems from a broader concept of language learning strategies (LLS), which might be viewed from two different perspectives: the psychological and sociocultural (Oxford and Schramm 2007).

The former, also called cognitive, emphasises LLS' facilitative power in accelerating internalisation, storage, retrieval, and use of L2, thereby increasing L2 learner autonomy (Nyikos and Oxford 1993). Following this line, the individual chooses a strategy in order to improve his or her learning. This conscious step is an act of taking responsibility for L2 learning processes that result in linguistic improvement. What determines the choice of LLS and their use is related, partially, to the individual's "internal cognitive requirements of information processing" (Nyikos and Oxford 1993: 20).

The latter perspective defines LLS as "a learner's socially mediated plan[s] or action[s] to meet a goal, which is related directly or indirectly to L2 learning" (Oxford and Schramm 2007: 48). Here, social and cultural factors, such as learning in a particular context with a particular group of learners and teacher, who may share their strategies, determine the choice and use of LLS. This study follows the proposed sociocultural perspective. Therefore, PLS are viewed here as context-related conscious actions and thoughts used either separately or in logical sequences in order to directly or indirectly improve, learn, and control both segmental and suprasegmental aspects of L2 pronunciation.

Effective deployment of LLS, including PLS, is hypothesized to be well orchestrated in the process of learning for specific tasks (Grenfell and Macaro 2007). Therefore, learners aiming at their pronunciation improvement may select not one but a combination of PLS. These pronunciation learning strategy chains or clusters are defined as consciously chosen and logically sequenced sets of strategies used while performing tasks for pronunciation learning. Their value has been observed in the course of target language (TL) learning process, as "effective learning of any TL skill or subsystem should involve relating strategies to one another and deploying them in series of logical steps" (Pawlak 2008: 317). Oxford (2003) notes that a strategy is effective and helpful when used in accordance with the learning style of an L2 learner working on a task, and when it is related to other relevant strategies.

2   An Overview of Qualitative Research into PLS

The empirical research into PLS as deployed by L2 learners follows both quantitative (e.g. Berkil 2008; Całka 2011; Eckstein 2007; Pawlak 2008) and qualitative designs. Since the former are beyond the scope of this study, more space will be devoted to the latter. The qualitative instruments measuring PLS comprise interviews (e.g. Peterson 2000; Samalieva 2000), oral protocols (e.g. Osburne 2003; Wrembel 2011), and written diaries (e.g. Bukowski 2004; Pawlak 2011).

The advantages of using them are multifold. Firstly, they may provide valuable data that confirms and supplements the closed items used in questionnaires. Secondly, other learning strategies, not discovered earlier, may be noted—especially when it comes to PLS, which are still an under-researched area with a repertoire that is still an open question. Thirdly, they may shed light on learning processes connected to the application of either one strategy or a set of strategies, also known as a cluster or a chain, i.e. "a set of interlocking, related, and mutually supportive strategies" (Oxford 2003: 281) used by L2 learners in a specific context. Additionally, qualitative research design allows the participants to reflect upon their internal and external processes of learning pronunciation.

Interviews have been utilized by Peterson (2000) and Samalieva (2000) in order to investigate types of strategies deployed by L2 pronunciation learners. Adult learners of Spanish are the subjects in Peterson's (2000) pioneering empirical research, which gathers PLS at three proficiency levels: beginner, intermediate and advanced. Through diaries and interviews, she elicited 22 old and 21 new pronunciation learning tactics never before documented. These 43 tactics are grouped into 12 PLS, embedded within the frame of Oxford's (1990) taxonomy of LLS.

Apart from determining the types and frequency of PLS use, interviews may also disclose learners' difficulties while learning English pronunciation, as reported by Samalieva (2000), who conducted interviews among 21 EFL students at an upper intermediate level. Interviewees underlined pronunciation learning problems concerning the pronunciation of long, unfamiliar words and specialised terms, the pronunciation of separate sounds, and rhythm and intonation.

Moreover, the data analysis in Samalieva's study revealed 29 PLS classified as cognitive, metacognitive, and social, deployed at very different frequencies. For example, the strategy of increasing input via listening to the radio or TV, interacting with native speakers, and practice through repetition, were among the most frequently used PLS. Transcription and oral self-correction were the least frequently used PLS. Interestingly, the strategies preferred by students belonged to the cognitive group and comprised strategies of practice and interaction.

Oral protocols were used in research on pronunciation monitoring and the improvement strategies of advanced learners (Osburne 2003), and on strategies of conscious control over foreign language pronunciation (Wrembel 2011). This research tool, focused on the immediate verbalised reactions and thoughts of learners performing a task (Brown and Rogers 2002), may largely contribute to revealing learners' mental processes while learning L2 pronunciation. The analysis of the recorded data of Osburne's (2003) qualitative study led to the establishment of eight PLS categories, which were later used by raters to specify the frequency of PLS use. The largest number of learners reported that while monitoring their pronunciation they attempted to mimic the interlocutors and resorted to paralanguage, described by Osburne (2003: 136) as "communicative matters generally considered outside the realm of language structure per se: speed, volume, and clarity." Rarely did they pay attention to clusters of sounds and individual syllables.

Learners participating in Wrembel's (2011) empirical research monitored their oral production, among other things, with the help of peers and teachers. As well, they used a slower rate of speech and spoke aloud to themselves. Unlike Osburne's participants, Wrembel's learners focused considerable attention on the quality of vowels, diphthongs, and word stress while monitoring their pronunciation. Moreover, they pledged to regularly use the following pronunciation modification strategies: self-monitoring, self-evaluation, selected/guided attention, interactions with peers, peer correction, practical pronunciation exercises, and referring to pronunciation dictionaries.

Bukowski's (2004) and Pawlak's (2011) diary studies provided some interesting insights into PLS research. The former concentrated on the effects of indirect PLS training in a group of EFL students in Poland. The researcher observed changes in the participants' ways of L2 pronunciation learning with reference to several areas, such as "increased independence in learning, taking deliberate actions which aim at improving their pronunciation; applying phonetic terminology in group discussions, teaching and learning from one another; adopting a positive attitude towards learning pronunciation" (Bukowski 2004: 25), to mention a few. The outcomes of the study underlined the role of indirect PLS.

The latter study provided insights into the ways advanced L2 learners approach pronunciation learning, identifying the problems they face while mastering the phonetic aspects of L2 speech, and how they deal with these. The researcher applied a qualitative approach, inviting 60 English department students to keep a diary in which records of steps and procedures undertaken to improve L2 pronunciation were noted over the course of 3 months. The participants were given prompts and were allowed to choose the language in which the comments were written. The results show that the most frequently used PLS are cognitive, for example, repetition, transcription, and dictionary consulting. Interestingly, the researcher observed the "resorting to more varied and innovative strategic devices" (Pawlak 2011: 174) among some learners. These devices included paying attention, self-monitoring, and self-evaluation in an array of metacognitive strategies, as well as the highlighting and perception of contrasts in cognitive strategies. Of particular interest is that some of the participants recorded several logically sequenced strategies applied to learning for a specific task. This was highly positive, because:

> [A] seemingly ineffective [strategy] may aid the process of learning if it is skilfully incorporated into a logical sequence of strategic devices suitable for the learning challenge (e.g. repeating a word when watching a movie as part of a preplanned strategy chain). (Pawlak 2011: 175)

Apart from the issues concerning deployment of the PLS, the research findings shed more light on the value of reflectivity in the process of pronunciation learning, and led the author to suggesting several didactic proposals. For example, he encouraged teachers to introduce a more varied contextualised and naturalistic approach to pronunciation practice, to incorporate phonetic training into other L2 classes, and to pay more attention to affective factors that determine success and failure.

As shown above, empirical qualitative investigations into PLS have rarely tackled PLS chains (Pawlak 2011), although appropriate strategy chains may affect the effectiveness of the process of learning—making it faster, more autonomous, and enjoyable (Oxford 1990). For example, Politzer and McGroaty (1985, in Ellis 2008) conclude that different clusters of language learning strategies are correlated with the learning outcomes of different achievement tests. Success in listening comprehension and communicative ability works in tandem with a strategy cluster like asking teacher about an expression, or asking for confirmation of correctness; whereas linguistic competence test results are linked to two vocabulary learning strategies: keeping track of new vocabulary and trying to use new words. Therefore, "strategies need to be considered in groups rather than in isolation" (Ellis 2008: 714). The empirical investigation presented below follows this line of enquiry, and its aim is to identify PLS chains deployed for specific tasks in the process of pronunciation learning.

3 Method

The present study investigates the use of PLS chains among a group of teacher trainees. These EFL learners consciously employed PLS in order to improve their intelligibility. Following the qualitative paradigm, two qualitative approaches were adopted to collect the data: semi-structured interviews and learner diaries. The former focused on contextualised use of PLS elicited while giving oral presentations on ways of pronunciation learning, followed by a semi-structured interview. The latter concentrated on records of individual pronunciation learning processes extended in time. Although analysis of the outcomes distinguished interesting tendencies that reveal students' independent and individualised ways of learning foreign language pronunciation, repetitive patterns in applying PLS chains for specific tasks were also observed.

3.1 Participants

There were 20 teacher trainees taking part in recorded, semi-structured interviews. 28 participants submitted diaries. They were all first year EFL teacher-training college students participating in a 60-h pronunciation course. The group that agreed to the recorded sessions consisted of 16 female and 4 male interviewees. Most of them, i.e. 17 out of 20, also submitted diaries. The group reporting their PLS in written form consisted of 24 females and 4 males.

3.2   Procedure

In order to collect the largest possible number of PLS chains used while learning pronunciation, both semi-structured interviews and diary writing procedures were applied. Both of them were preceded by the introduction of a PLS project. The participants were invited to take part in the project, whose aim was to prepare for and give a presentation on how they learn English pronunciation. When performing the speech, their pronunciation would be evaluated—not the steps to perfecting it. To achieve this aim, they were to take several actions, among others, writing a phonetic diary in which they noted down their ways and strategies of learning English pronunciation, as well as their observations and reflections concerning their and others' pronunciation. The participants were provided with a list of sample PLS in order to clarify the notion of a pronunciation learning strategy. Additionally, the choice of the language for writing the diary was left up to the participants.

The project was introduced towards the end of March and lasted until May, covering approximately 6 weeks. During that time the participants were encouraged to write their diaries outside the classroom and discuss their observations and problems with diary writing entries at their pronunciation classes once a week. They were not informed of the possibility of grouping PLS into logically sequenced clusters. Their diaries were collected after their presentations and did not influence the participants' pronunciation evaluation.

Moreover, the author introduced the students to the idea of recording their presentations, and following them by an interview for the purposes of the research. Only 20 teacher trainees expressed consent. The recorded samples consisted of two parts: presentation and a semi-structured interview. The former was given in English, in which the participants described ways and strategies of learning English pronunciation in different situations. The second part was conducted in Polish. It attempted to elicit PLS used before and while giving the presentation, and clarify any doubts resulting from the first part. The recordings were later transcribed, and transcripts of the interviews and diaries were analysed for PLS chains. For the purposes of the study, Berkil's (2008) classification of PLS based on Oxford's (1990) LLS' taxonomy was used, dividing PLS into direct (memory, cognitive, and compensation PLS) and indirect (metacognitive, affective and social PLS) strategies.

4   Results

While analysing both the transcripts of the recordings and diaries from the per-spective of what PLS were used, it was observed that when deploying logically sequenced strategies the participants concentrated on a specific pronunciation learning action or a task. Those tasks constitute an outline for PLS chains analysis in the present study. Further investigation revealed 21 PLS chains reported in the

diaries and 15 mentioned in the interviews. All of them referred to the following five types of pronunciation learning tasks: preparation for presentation, learning pronunciation of a new word, learning pronunciation while watching TV or films, listening to music/audiobooks/recordings, and reading texts.

There were six noted instances of PLS chains concerning pronunciation learning in the process of presentation preparation, for instance: *I checked the pronunciation of the words I was not sure of and noted down the phonemic script next to the text; I checked the transcription, then I tried to link the words using rules of connected speech, and finally I repeated my speech;* and *I wrote what I was supposed to say [using] phonetic symbols. I tried to read it as many times as I could.* Most of these steps reflect very conscious and organised approaches to pronunciation learning, and the strategies used belong mostly to cognitive (e.g. practising through repetition) and memory categories (e.g. creating mental linkages through transcription). One of the respondents presented a precise description of logical steps undertaken in the process of pronunciation learning while preparing the presentation: *In my preparation for the presentation I used the following steps. The first one was to underline the words [...], which I found difficult for me. [...] I underlined the words that [...] I didn't know how to pronounce [...]. And the second step was to listen to them again. And I wrote the transcription over the spelling of the word [...]. And the third step was to write these words in my notebook [...]. The fourth step was to repeat all the words.* Hence the process of learning pronunciation while preparing for presentation might be viewed as an application of a cognitive strategy chain of creating structure for input through highlighting followed by other strategies of practising through listening, transcribing and repeating (Oxford 1990).

A number of PLS chains referring to learning word pronunciation follow a similar pattern. First, the participants check the pronunciation of a word in paper or electronic dictionaries. Then they note down its transcription, and finally repeat to memorise its pronunciation, for example, *When I don't know how to pronounce a word, I look it up in a dictionary, and then [I] write this word and its phonetic transcription in my notebook. When I have free time, I learn that word by heart;* and *when I don't know how to pronounce a word, I check its transcription in a dictionary, and I try to learn it by heart. I usually use an electronic dictionary to listen to pronunciation as well, and then I repeat it after the recording.* However, there are instances of less frequent PLS chains used while learning word pronunciation. For example, the learner first attempts to make intelligent guesses about pronunciation, and then confers the outcome with an authorised source: *I try to write the transcription of a word, and then I check it using a dictionary.* Another case of the infrequent application of a PLS chain for the above task pertains to social interaction in the process of pronunciation learning: *I practised with a friend, for example, she pronounced a word and I transcribed it; then we swapped roles.*

While learning pronunciation by watching TV or films, the participants of the study reported 11 PLS chains. The strategies used here relate to using or avoiding the use of subtitles, noticing the movement of the native speakers' speech organs, or their intonation, stress placement, and pauses. This constituted copying as well as memorizing their pronunciation. However, analysis of these PLS chains reveals that

the steps are taken in a much individualised way. There are learners whose approach towards the application of subtitles is precise, for example, *I watch a lot of American movies and TV series, first without subtitles and then if I don't understand some words, I watch it again with subtitles and thanks to it I know how to pronounce particular words. Besides that, sometimes I even try to repeat dialogues from the movies*; and *my first step was to turn off all the subtitles in the movie because I watch a lot of films [. . .]. And I'm trying to follow the speaker's mouth when I watch the films, not just listening, but repeating again and again the words.* Other learners opt for noticing and repetition, *When I'm listening to music or watching a movie, I'm trying to focus on their [speakers'] way of pronouncing sounds and then [I] copy and memorise it; I observe the actors' lip movements, how they pronounce words, their accent, and sometimes I try to repeat some words in my mind (after them). Thanks to that I can remember a lot*; and *watching videos, I try to follow a speaker's mouth, repeating again and again. It helps me a lot.* One diary entry emphasises the positive attitude towards actresses, which may affect pronunciation learning, *It was very important for me to receive some experience, how to speak, from watching films [. . .] I loved listening [to] actresses, like Keira Knightley or Hellen Mirren—it's always very exciting. I tried to copy their speaking [. . .] with proper intonation, pauses, and stress placement.*

In a similar vein, PLS used while learning pronunciation through listening to music, audiobooks, etc. relate frequently to noticing and repetition, for example, *When I'm listening to music or watching a movie, I'm trying to focus on their (speakers') way of pronouncing sounds, and then copy and memorize them.* Additionally, several participants emphasise their focus on listening along with reading the script, *I listened to [music and] I additionally read the lyrics at the same time, While listening to songs I read the lyrics at the same time to check pronunciation.* There are also some more individualised instances of PLS chains, *I try not to look at the lyrics of a song I am listening to in order to hear the words by myself. Then I note the words down and check the lyrics,* and *I try to memorise part of the recordings, and then say them from memory, imitating the native speaker.*

In this study only two instances of PLS chains are identified while learning pronunciation through reading, *When I do my homework, I try to read [a] text loud and I pay attention to some difficult words, and first I read them slowly but next I try to read faster and faster,* and *When I read a text in English, I try to pay attention to proper pronunciation. So, I first read slowly and then faster and faster.* Both of these PLS chains contain strategies of reading aloud applied together with noticing correct pronunciation and practising at different rates of speed.

5 Discussion

As mentioned previously, the participants were not instructed to focus on any particular activity when reporting their ways of learning pronunciation. However, they intuitively described their pronunciation learning strategies embedded in task-

Table 1 Selected pronunciation learning strategy chains

Task type	Examples	PLS chains	PLS' description
Preparing a presentation	*I checked the pronunciation of the words I was not sure;*	Cognitive	Checking pronunciation
	I noted down the phonemic script of them next to the text;	Memory	Noting down pronunciation
	I talked to my friend [and] asked her how to pronounce a particular item.	Social	Checking pronunciation with a partner
Learning pronunciation of a new word	*When I don't know how to pronounce a word, I look it up in a dictionary;*	Cognitive	Checking pronunciation
	then [I] write this word and its phonetic transcription in my notebook.	Memory	Memorizing pronunciation by creating mental linkages through transcription
	When I have free time, I learn that word by heart	Memory	Memorizing pronunciation by repetition
Learning pronunciation through watching TV, a film, etc.	*When I'm watching a movie, I'm trying to focus on their [speakers'] way of pronouncing sounds*	Cognitive	Focus on listening
	and I try to pronounce them in the same way the speaker pronounced them	Cognitive	Practising by imitation
Learning pronunciation through listening	*While listening to songs,*	Cognitive	Focus on listening
	I read the lyrics at the same time to check pronunciation.	Cognitive	Associating pronunciation with spelling
Learning pronunciation through reading	*I try to read [a] text loud,*	Cognitive	Practicing through reading aloud
	I pay attention to some difficult words,	Cognitive	Focus on words difficult to pronounce
	and first I read them slowly but next I try to read faster and faster.	Cognitive	Practicing through repetition at different rates of speed

related contexts. The analysis of the scripts and diary entries reveal five different activities the learners refer to when deploying PLS chains: presentation preparation, word pronunciation learning, pronunciation learning while watching authentic video recordings, listening to audio recordings, as well as pronunciation learning while reading. Therefore, the study results confirm that logically sequenced PLS are deployed for a specific task, as can be seen in Table 1.

Although the study revealed a number of individually and autonomously used sequences of PLS, there were certain regularities in the application of PLS for a particular task. In the case of learning pronunciation before giving a presentation, two patterns of PLS chains were observed. The first one comprises cognitive strategy (checking pronunciation in dictionaries) used before memory strategies (noting down pronunciation and memorizing it through repetition), which are sometimes followed by social strategies (checking pronunciation with a partner), for example, *I check the pronunciation of words in a multimedia dictionary. I write the pronunciation on small pieces of paper. I talk to my friend [and] ask her how to pronounce a particular item. I told her [the speech] and she checked if everything was fine*. The second sequence of PLS also starts with cognitive strategies (checking pronunciation), which are then supplemented with metacognitive strategies (applying phonological rules) and subsequently with cognitive strategies feeding memorisation (practising), for example, *I checked transcription, then I tried to link the words using rules of connected speech and, finally, I repeated my speech*.

Similarly, repetitive PLS chains occur in learning word pronunciation. Here a cognitive strategy of checking pronunciation in reliable sources frequently precedes memory PLS, for example, *when I don't know how to pronounce a word, I check its transcription in a dictionary, and I try to learn it by heart*. Additionally, the respondents frequently try to memorise pronunciation of a vocabulary item by creating mental linkages with the use of transcription. Therefore, the PLS chain for this task often begins with a cognitive strategy followed by memory strategies.

The PLS chains repeated by independent respondents while learning pronunciation through watching TV or a film, as well as listening to music, entails mostly cognitive strategies. However, these cognitive PLS chains differ when applied to different tasks. Working on pronunciation while watching, the respondents first focus on the target pronunciation area (*When I watch a movie, I try to focus on [the speakers'] way of pronouncing sounds*) before applying other cognitive strategies, such as practising by imitation (*I try to pronounce them in the same way the speaker pronounced them*). Whereas in case of learning pronunciation while listening to music, two cognitive PLS are often deployed simultaneously: focusing on listening and associating pronunciation with spelling (*While listening to songs, I read the lyrics at the same time to check pronunciation*).

While learning pronunciation through reading the participants mention cognitive PLS chains, such as practising reading aloud and focusing on words difficult to pronounce followed by practising through repetition at different rates of speed, for example *I try to read [a] text loud, I pay attention to some difficult words, and first I read them slowly but next I try to read faster and faster*. The last strategy in this chain reflects an interesting approach to pronunciation practice exploiting different tempo of speech which might be easily applied as a teaching technique.

Strategies prevailing in the above-mentioned PLS chains belong to the set of cognitive strategies fuelled by memory PLS, which are second most frequently used in this study. Although the direct strategies are reported in most PLS chains deployed for pronunciation learning tasks, there are instances of indirect PLS, such as affective, in case of pronunciation imitation of favourite actresses, and social PLS, when cooperating with others.

6   Conclusions

The qualitative approach adopted in this study reveals individual approaches to PLS deployment and raises learners' awareness of the pronunciation learning processes. Never before, to the author's best knowledge, have so many instances of PLS chains in pronunciation learning for specific tasks been reported. Moreover, this PLS project, which involved diary writing and interviews, triggered the respondents' reflectivity on the process of pronunciation learning. This fact is very important for prospective teachers (cf. Gabryś-Barker 2012) because the verbalisation of practices exploited in pronunciation learning helps the participants become more aware of their pronunciation strengths and weaknesses, which may later be adopted in the process of pronunciation teaching.

On the basis of this study's data there are several important didactic implications. Firstly, the patterns of PLS chains deployed by the participants could aid in the construction of a PLS training outline, which may refer to overt pronunciation strategy training and PLS chains' application for such pronunciation learning tasks as watching and listening to authentic recordings, preparing for presentations or reading aloud. Secondly, the tasks reported in the study may be applied as points of reference in in-class pronunciation practice. For example, L2 learning through films or music may be supplemented with logically sequenced PLS chains used for pronunciation learning. Therefore, initially students may be encouraged to focus on a particular area of interest in the movie, notice the lip movement of actors or other pronunciation features, for example intonation patterns, later they may be requested to imitate or repeat after the model character.

Moreover, transcription, often neglected in the process of teaching at lower levels of education (Szpyra-Kozłowska and Stasiak 2006), has been reported in this study as a useful strategy for pronunciation learning. What is interesting, the application of it in PLS chains has been demonstrated several times, especially in case of word pronunciation learning. Therefore, teachers should be encouraged to incorporate phonemic symbols in their vocabulary teaching. Providing transcription together with a vocabulary item may aid the process of memorizing and practising its pronunciation.

Finally, the qualitative data presented here shows that individuals apply an array of PLS, selecting them carefully and consciously for a particular task. Learners order PLS in logical chains, which are used consecutively in the process of pronunciation learning. For example, while preparing for oral presentation, learners have a tendency to first notice (spot and highlight) and analyse (often by using transcription) the problem areas, and then practise through repetition. Nevertheless, as this empirical research is preliminary, there is a need for further qualitative investigation in order to confirm and establish more regularities in the deployment of PLS chains. Looking at PLS chains from the perspective of effectiveness and comparing their application with learners' pronunciation outcomes is one direction such research should certainly follow.

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