Pronunciation Learning Strategies Used by EFL University Students: A Classroom-Based Investigation

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Abstract Research on good language learners has demonstrated that the use of language learning strategies is effective in developing students' second language (L2) competence and autonomy. Amongst the great number of studies conducted into language learning strategies in general, very few have looked into the area of L2 pronunciation, and even fewer in a Middle Eastern EFL context. This study aims to explore the language learning strategies that Jordanian English as a foreign language (EFL) university students use in their quest to develop L2 pronunciation. The study utilized three methods of data collection: classroom observations, a questionnaire, and semi-structured interviews. The participants were 87 English major university students. Oxford's (1990) framework was used to analyze the data and to classify pronunciation learning strategies (PLSs). The analysis revealed that cognitive strategies were the most commonly used by students inside and beyond the classroom, followed by social strategies and metacognitive strategies, respectively. Outside the classroom, students sought practice through the media and technology, but such learning was confined to exposure only, that is, to *receptive* L2 listening/viewing, with *productive* skills being largely overlooked. Implications for teachers include raising awareness of the benefits of using learning strategies, developing activities that enhance students' communicative use of L2, and, most importantly, incorporating strategy instruction into their teaching plans.

Keywords Pronunciation learning strategies (PLS) · Receptive and productive skills · EFL learning

1 Introduction

Throughout the past century, applied linguists and language teachers strove to find keys to success in L2 development. Early attempts at such a quest were directed to the *teaching* process, giving rise to a number of language teaching approaches and focusing exclusively on *teachers* as dominant participants who were thought

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to be alone responsible for language learning. Many approaches to L2 teaching have fluctuated throughout the century beginning with the Grammar-Translation Method, on to the Audiolingual Language Teaching, and lastly the Communicative Language Teaching (CLT) approaches. The advent of the CLT approach in the last quarter of the twentieth century was a turning point in the history of L2 learning and teaching. This was accompanied by the rise of constructivism as a school of thought that contributed to enriching our understanding of the role of *learners*, as social intractionists, in L2 development. Scholars—failing to find their answers in teachers—have begun to recognize that *learners* are equally, if not more importantly, active participants in the process of language learning and teaching. Notions of learner independence/autonomy and learner-centeredness (e.g., Nunan, 2013) have become widely prevalent in both English as a second language (ESL) and EFL educational settings. Amongst those developments was a turn away from addressing the question of "what to learn" to focusing on "how to learn," giving rise to one of the widely established fields of study in today's research, that of *language learning strategies.*

Since the seminal work of Rubin (1975) on good language learners, a large number of studies have been conducted to examine the relevance of strategy use to the overall proficiency of L2 learners. A respectable stockpile of studies showed the efficacy of strategy use in developing language skills and language subsystems. For example, O'Malley et al. (1989) found that the use learning strategies resulted in the development of effective *listening* skills among L2 learners. A similar finding into the efficacy of using metacognitive strategies in listening comprehension was reported by Vandergrift (2008). And in *writing*, Bloom (2008) has strongly argued for the effectiveness of using learning strategies in L2 learners' compositions. Cohen (2008) offered a similar evaluation in relation to strategy use for L2 learners' *speaking* development (see also Pawlak, 2018). However, the area of L2 pronunciation was—until recently (see the special issue in *Studies in Second Language Learning and Teaching* 2018)—rarely addressed empirically. Pawlak and Szyszka (2018) confirm the scarcity of research on PLS and call for more investigations of this kind. This study attempts to fill this gap by exploring the types of PLS used by Jordanian EFL university students and providing valuable insights for language teaching practitioners in and outside Jordan.

2 Pronunciation Learning Strategies (PLS)

Pawlak (2010, p. 191) presents a concise definition of PLS: "deliberate actions and thoughts that are consciously employed, often in a logical sequence, for learning and gaining greater control over the use of various aspects of pronunciation." The concision of this definition stems from the fact that it is all-encompassing in that it emphasizes essential facets of the construct:

> (1) the purposefulness of the use of PLS, (2) a certain level of awareness of this use, (3) the fact that PLS can be both observable (e.g., numerous repetitions of words that are difficult to pronounce) and unobservable (e.g., a mental plan of how to get around a persistent pronunciation problem), (4) the importance of combining PLS into clusters or chains for the benefit

> of achieving learning goals, and (5) the fact that PLS can be employed with the purpose of better understanding and remembering [target language] TL pronunciation patterns but also with a view to successfully employing various segmental and suprasegmental features in communication, or what could be related respectively to the development of explicit and implicit knowledge. (Pawlak & Szyszka 2018, p. 295)

Although, as noted above, strategy research—as it has come to be known—has constituted a fundamental part of L2 acquisition research since the 1970s, less attention has been paid to researching strategies related to L2 pronunciation learning. Most of these studies have focused, in the main, on examining PLS in ESL contexts, and very few on the use of PLS by EFL students. However, a careful review of previous research on PLS reveals that such explorations only began in the year 2000 by Peterson (2000) who, upon analyzing learner diaries of and interviews with 11 learners of Spanish in the UK, uncovered 12 strategies related to pronunciation which she categorized into six groups in accordance with Oxford's (1990) taxonomy. These groups and strategies are presented in Table 1.

Osburne (2003) conducted a similar study in which he looked at the use of PLS by 50 adult ESL university learners from a variety of first language backgrounds using oral reports. After qualitatively analysing the data, the researcher found eight strategies used by learners to develop their L2 pronunciation which he linked to the following areas: voice quality settings, individual sounds and clusters, individual syllables and words, focusing on prosodic structures, paralanguage, memory or imitation, and self-monitoring. The analysis also revealed that mimicking the speakers and using paralanguage were the most commonly used, while strategies related to clusters were the least commonly used by the learners. In addition, Eckstein (2007) uncovered three main learning strategies for L2 pronunciation that positively correlated with higher spontaneous pronunciation skills: frequently noticing others' English language mistakes, asking for pronunciation help, and adjusting the facial muscles.

Table 1 Peterson's (2000) PLS

Group	Strategy
Memory	Representing sounds in memory
Cognitive	Practicing naturalistically
	Formally practicing with sounds
	Analysing the sound system
Compensation	Using proximal articulations
Metacognitive	Finding out about TL pronunciation
	Setting goals and objectives
	Planning for a language task
	Self-evaluating
Affective	Using humour to lower anxiety
Social	Asking for help
	Cooperating with peers

Three more comprehensive studies on PLS were carried out in Poland by Pawlak (2006, 2008, 2018) who, in the first study, used a list of seven strategies and an open-ended question that sought to explore more PLS than those listed. A strong preference for cognitive strategies (e.g., repetition of words) and minimal use of metacognitive strategies (e.g., self-evaluation) were observed in the analysis of data. In the second study, Pawlak (2008), through a questionnaire that was distributed to 106 university students, identified two sets of strategies. Inside the classroom, the most frequently used were: (1) repeating after the teacher or tape, (2) carefully listening to the model provided, and (3) using phonetic transcription respectively; and less frequently used were: (1) using a dictionary, (2) reading aloud, (3) following instructions, (4) noting down words, (5) using sentences or dialogues, and (6) highlighting. Outside the classroom, the most frequently used strategies were: (1) repeating after the model provided on a tape or CD, (2) seeking exposure to English through the media, (3) looking up pronunciation words in dictionaries, (4) reading aloud, (5) using phonetic script, (6) recording one's pronunciation and then listening to it, (7) cooperating with other students, and (8) reviewing points recently covered in pronunciation classes. In the third study, Pawlak (2018), using open-ended questionnaires administered after the completion of two tasks, identified the use of PLS during two activities that were given to 54 English language learners in Poland. Pawlak focused on generating both controlled and spontaneous data in the hope of finding PLS that aid in the development of both explicit and implicit knowledge of pronunciation. The researcher concluded that the learners made minimal use of PLS across the three stages of the task relying mainly on the use repetition and comparison of their performance with that of other learners. This use was attributed to the nature of the tasks and the different foci the learners had in each.

Additionally, Całka (2011) elicited data from 74 teacher training college students using a survey that included—in addition to the Likert-scale items adapted from Oxford (1990)—an open-ended question to allow for the possibility of exploring new PLS. Quantitative analysis revealed that the most commonly used strategies were ordered in terms of frequency as follows: memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, affective strategies, and social strategies. Qualitative analysis of responses to open-ended question revealed that cognitive and metacognitive strategies were reported to be the most widely used by the respondents. A recent study on PLS was conducted by Szyszka (2014), who used diaries and semi-structured interviews with 31 trainee English language teachers and found sequences of PLS in the form of chains of two or more strategies. The most commonly used strategies were cognitive and memory strategies. Another recent study was that conducted in Turkey by Erbay et al. (2016), who explored the use of PLS by 56 English language learners and found a total of 18 tactics that were later grouped into six strategies using Oxford's (1990) framework. The researchers concluded that cognitive strategies were the most commonly used strategies.

In addition to the previously reviewed studies that were concerned with the identification of PLSs, a number of studies set out to examine L2 learners' perceptions of and preferences for PLS use. As this theme is beyond the scope of this study, only a brief review of some studies is in order. Vitanova and Miller (2002) examined the

perceptions of a group of graduate students towards their L2 pronunciation learning experience. In that study, the researchers identified preferences for three main strategies that were thought to help in pronunciation development: self-monitoring/self-correction, active listening and mirroring, and motivation, and further called for the incorporation of strategy research into language instruction. Teachers have to direct students on "*how to learn pronunciation*, not just *how to produce sounds and patterns*" (italics mine) (2002, p. 5). Moreover, Derwing and Rossiter (2002) examined the perceptions of 100 adult ESL college learners from a variety of first language backgrounds with regard to their pronunciation difficulties and identified preferences for eight learning strategies that students most commonly use as follows: paraphrasing, self-repetition, writing/spelling, adjusting volume, speaking clearly, slowing speech rate, calming down, and avoidance of problematic areas. In the Polish context, Wrembel (2008) examined the perceptions of 32 university students towards the efficacy of PLS and found that phonemic transcription, dialogue reading, and performing are perceived by the students to be the most useful. In yet another investigation within the same context, Pawlak (2011) explored 60 university students' perspectives on L2 pronunciation learning and found that the most commonly reported preference among students was for cognitive strategies such as repetition and transcription.

Other lines of inquiry in PLS are concerned with the relationship between the use of PLS and individual factors such as motivation as well as to a more recent trend in strategy research, that of strategy-based instruction (see Oxford, 2011). These two lines are not the concern of this study, but interested readers can be referred to the extensive synthesis provided by Pawlak and Szyszka (2018).

3 Oxford's (1990) Framework

One of the most popular classifications of language learning strategies is that of Oxford (1990), which I have adopted in this study because it is both detailed and comprehensive. In a comparative study of three classification systems of language learning strategies (i.e., O'Malley & Chamot, 1990; Oxford, 1990; Rubin, 1981), Hsiao and Oxford (2002) found that Oxford's (1990) classification system was superior in accounting for the comprehensive variety of strategies reported by learners. Oxford (1990) classifies language learning strategies into two main classes which are further expanded into six sub-classes. The first class consists of *direct strategies* which are further classified into three types: *memory*, *cognitive* and *compensation strategies*. Memory strategies (e.g., using imagery) help learners to "store and retrieve new information." Cognitive strategies (e.g., summarizing) help learners to "understand and produce new language." Compensation strategies (e.g., using synonyms) help learners to communicate using the language (Oxford, 1990, p. 37). The second group consists of *indirect strategies*, which form a basis for language learning. Three types of learning strategy are involved: *metacognitive*, *affective* and *social strategies*. Metacognitive strategies (e.g., cantering, arranging, planning, evaluating) help

learners "to control their own cognition." Affective strategies (e.g., lowering anxiety, encouraging, taking emotional temperature) help learners to "regulate emotions, motivations and attitudes." Social strategies (e.g., asking, cooperating, empathizing) help learners to "learn through interacting with others" (Oxford, 1990, p. 135).

4 The Study

4.1 Research Questions

It should be recalled that this study aims to explore PLS used by a group ($N = 87$) of English major university students in Jordan. Three research questions were addressed as follows:

1. What are the pronunciation learning strategies used by Jordanian university students inside the classroom?
2. What are the pronunciation learning strategies used by Jordanian university students outside the classroom?
3. How do students perceive the usefulness of the pronunciation learning strategies they use?

4.2 Participants

The participants in this study were 87 English major university students in Jordan. They were enrolled in a four-year BA program that qualifies them to become English language teachers. They were chosen on the basis of their year of studying English. Thus, first year students were excluded from participation because pronunciation subjects are only offered to students in their second year or later in the study context. Of the 87 who participated in the questionnaire, 16 students (6 males and 10 females) responded to the researcher's invitation to participate in a face-to-face audio-recorded interview. Their ages ranged between 18 to 20 and their first language was Arabic.

4.3 Data Collection

The study used three methods of data collection: non-participant classroom observation, a questionnaire, and follow-up semi-structured interviews. The researcher observed six pronunciation and phonology classes and took notes of what students were doing inside the classroom. This allowed him to list the tactics (see below for explanation) used by students inside the classroom. After each class, the researcher distributed a questionnaire to the students in each class. The questionnaire consisted

of two parts: The first listed a total of 26 learning tactics (15 inside the classroom and 11 outside it) that were collected from the literature, and the second had the same 26 tactics listed for students' evaluation on a 5-point Likert-scale. An invitation for participation in a face-to-face interview was made by the researcher and 16 students agreed to participate. The interviews were conducted in a classroom and audio-recorded for analysis. They allowed generating more data on PLS, which resulted in the addition of some PLS that were not included in the questionnaire.

This triangulation of instruments is argued to be the key to avoid the flaws associated with the use of single data collection tools (Pawlak & Szyszka, 2018). Indeed, each one of these the research methods mentioned above has drawbacks if used on its own (for a discussion of the advantages and disadvantages of strategy instruments, see Oxford & Burry-Stock, 1995; Pawlak & Szyszka, 2018). For example, relying solely on observation to assess the use of language learning strategies leaves out "much of the interesting information [which] cannot be observed because it is mentalistic and not behavioristic. Access to it must come from interviews, written questionnaires, and verbal report (…) wherein the learners generate the data" (Cohen & Scott, 1996, p. 93). And Oxford (2011, p. 145) further suggests that "it is helpful to combine observation with querying learners about their strategies through an interview, questionnaire, or a simple 'member check'." As Pinter (2006, p. 626) puts it, "observing task performances *without asking the learners* (…) cannot give a full picture of the strategies used" (italics mine). Thus, observable learning strategies in this study were explored through the researcher's non-participant classroom observations based on ethnographic field notes. Other, non-observable (mental) language learning strategies, which involve both non-observable learning strategies that are employed inside the classroom and outside the classroom, were investigated through the use of a questionnaire and follow-up interviews, as indicated previously. Macaro (2001, p. 56) asserts that "interviewing language learners about the way that they use strategies can be very productive and an excellent way of complementing a questionnaire."

4.4 Data Analysis

It may be recalled again here that Oxford's (1990) categorization of language learning strategies is adopted. Oxford (1990) follows the following sequence in presenting strategies:

Strategy category → *Strategy group* → *Strategy set* → *Strategy* → Tactic. Oxford (2011, p. 299) differentiates between 'strategy' and 'tactic' as follows:

> **Tactic** _ a specific, 'ground-level' application of a strategy or metastrategy by a particular learner in a given setting for a certain, real-life purpose to meet particular, immediate needs; same as operations in activity theory. Example: 'I understand better when I look at the visible structure of the Spanish story', reflecting the strategy of Using the Senses to Understand and Remember.

In analyzing PLS in this study, a reversed pattern was followed, that is, learning tactics were presented first and then grouped into strategies: *Tactics* → *Strategies* → *Strategy set* → *Strategy group* → *Strategy category.*

5 Findings

The main aim of the present study was to explore the language learning strategies that EFL students employ to develop their L2 pronunciation. To do this, PLS were categorised into two categories: observable and non-observable learning strategies. The two categories are presented below:

5.1 Observable Pronunciation Learning Strategies

As we noted earlier, this type of strategies was observed by the researcher through classroom observations. A number of 20 tactics were recorded using the researcher's field notes and these are listed below.

1. Repeating aloud after the lecturer.
2. Repeating aloud after a native speaker on tape.
3. Listening carefully.
4. Writing phonemic symbols on the board and in notebooks.
5. Practicing sound distinctions through minimal pair drills.
6. Trying out different accents of English.
7. Trying out contrasts between Arabic and English.
8. Practicing sounds first in isolation and then in context.
9. Practicing difficult words over and over.
10. Imitating the lecturer's mouth movements.
11. Talking aloud to oneself to practice the pronunciation of difficult words.
12. Verbalizing and using hypotheses about pronunciation rules.
13. Asking help from the lecturer.
14. Practicing word stress placement.
15. Taking notes and writing rules about word stress.
16. Reading reference materials about target language rules.
17. Training their ears to listen to native speech.
18. Speaking slowly to get the pronunciation right.
19. Reading aloud.
20. Asking the lecturer to explain and give examples.

Those 20 learning tactics were grouped into 11 strategies according to Oxford's (1990) scheme. The division is presented in Table 2.

Table 2 Grouping of tactics into strategies

Strategies	Tactics
1. Repeating	Repeating aloud after the lecturer
	Repeating aloud after a native speaker on tape
	Reading aloud
	Practicing difficult words over and over
2. Formally practicing with sounds	Practicing sound distinctions through minimal pair drills
	Practicing word stress placement
	Talking to oneself to practice the pronunciation of difficult words
3. Practicing naturalistically	Listening carefully
	Trying out different accents of English
	Training their ears to listen to native speech
	Speaking slowly to get the pronunciation right
4. Reasoning deductively	Verbalizing and using hypotheses about pronunciation rules
5. Analysing contrastively	Trying out contrasts between Arabic and English
6. Taking notes	Writing phonemic symbols on the board and in notebooks
	Taking notes and writing rules about word stress
7. Getting help	Asking help from the lecturer
8. Using gesture	Imitating the lecturer's mouth movements
9. Placing new words into a context	Practicing sounds first in isolation and then in context
10. Finding out about language learning	Reading reference materials about target language rules
11. Asking for clarification or verification	Asking the lecturer to explain and give examples

5.2 *Non-Observable Pronunciation Learning Strategies*

This type of pronunciation learning strategies was explored through the use of both a questionnaire and follow-up interviews, as noted above. The questionnaire listed 26 learning tactics that were found in the literature regarding pronunciation learning. Of 26 learning tactics that were included in the questionnaire, 15 were concerned with inside the classroom learning and 11 with outside the classroom learning. During the interview, the researcher sought to identify any additional learning tactics that were not listed in the questionnaire.

5.2.1 Inside the Classroom Strategies

Analysis of students' responses to the questionnaire revealed that their use of the different learning tactics varied significantly. This variation is illustrated in the data included in Table 3. It can also be seen that PLS based on listening and repetition were used the most often.

Additionally, the researcher further questioned a subset of 16 students in an interview about the tactics they employed, which resulted in the data presented in Table 4. It may be seen that once again, listening and repeating after the teacher was found to be the most widely used tactic.

Table 3 Questionnaire responses: Students' use of inside classroom learning tactics

Learning tactics: General	*N* (%)
Listen and repeat after the teacher	70 (80)
Write and spell words and sentences that I hear	58 (67)
Repeat to myself or correct myself in my head	50 (57)
Repeat to myself or correct myself aloud	46 (53)
Listen and watch native speakers on videos and/or DVDs	40 (46)
Listen to native speakers on tapes or CDs	38 (44)
Converse with peers	36 (41)
Ask help from the teacher	36 (41)
Speak slowly	29 (33)
Increase volume of speech	27 (31)
Pay attention to:	
a. word stress	65 (75)
b. consonants and vowels	60 (69)
c. rhythm	35 (40)
d. intonation	33 (38)
e. all above	25 (29)

Table 4 Interview responses: Students' use of inside classroom learning tactics

Learning tactics	*N* (%)
Listen and repeat after the teacher	10 (62.5)
Read the word in mind and repeat to myself	8 (50)
Write down words and sentences	7 (44)
Pay attention to the teacher	2 (12.5)
Listen and repeat after the tape	2 (12.5)
Write the transcription of words	2 (12.5)
Use dictionaries (electronic)	2 (12.5)
Converse with the teacher	2 (12.5)
Share the pronunciation of words with peers	1 (6)
Read aloud	1 (6)

Interviews with students revealed four additional learning tactics employed inside the classroom that were not listed in the questionnaire. These were the following:

1. Write the transcription of words.
2. Use dictionaries (electronic).
3. Converse with the teacher.
4. Share the pronunciation of words with peers.

When combined, the results of the questionnaire and interviews produced a total of 19 pronunciation learning tactics that students employed inside the classroom to develop their L2 pronunciation.

5.2.2 Outside the Classroom Strategies

As noted above, the students were also asked about the learning tactics that they used to learn L2 pronunciation outside the classroom. The analysis showed that students' use of learning tactics outside the classroom also varied significantly. This can again be related to their environment or cultural context (see Table 5). The most frequently used tactic involved watching movies in English. It is essential, however, to comment on two survey items where student responses were unexpected: "speak English with Arabic friends" (46% of respondents) and "speak English with non-Arabic friends" (39% of respondents). In the first case, the researcher's experience as a student and teacher of English in the study context is that while some students do make use of code-switching in conversation with some Arabic-speaking friends, it is nearly always in the nature of single or occasional words rather than an extended bilingual discourse. Regarding the second item, again intuitive observations are that such exchanges tend to happen on a small scale—in this case with the relatively few international students who come from other Muslim countries such as Malaysia and Indonesia.

Table 5 Questionnaire responses: Students' use of outside classroom learning tactics

Learning tactics	*N* (%)
Watch movies in English on TV/DVD	74 (85)
Repeat to myself	56 (64)
Use dictionaries and transcription	55 (63)
Read aloud	51 (59)
Listen to songs in English	49 (56)
Use the Internet	42 (48)
Speak English with Arabic-speaking friends	40 (46)
Listen to native speakers on tapes or CDs	35 (40)
Speak English with non-Arabic speaking friends	34 (39)
Listen to the radio	28 (32)
Record myself and listen to my pronunciation	11 (13)

The questionnaire items were followed up on during the interviews. Table 6 presents the outside classroom learning strategies starting with those that the participants reported using the most often. It can be observed once again that "watch movies in English" was the most favored tactic. The interviews also revealed two additional learning tactics that were not listed in the questionnaire:

1. Code-switch between Arabic and English.
2. Use CAPT systems.

When combined, the results of the questionnaire and the interviews produced a total of 13 learning tactics that students use to develop their L2 pronunciation outside the classroom. Student responses can be viewed as being influenced by the environment that surrounds them in Jordan, as noted above. The fact that a great majority of students reported watching movies in English is likely to be the result of

Table 6 Interview responses: Students' use of outside classroom learning tactics

Learning tactics	*N* (%)
Watch movies in English	14 (87.5)
Listen to music in English	9 (56)
Use the Internet	9 (56)
Speak English with Arabic-speaking friends	6 (37.5)
Use dictionaries (electronic)	4 (25)
Read aloud	3 (19)
Listen to the radio	2 (12.5)
Listen to native speakers on tapes or CDs	2 (12.5)
Code-switch between English and Arabic	1 (6)
Use computer-assisted pronunciation teaching (CAPT) systems	1 (6)
Record myself and listen to my pronunciation	1 (6)

Table 7 Number of pronunciation learning tactics found in the study

Inside	Tactics	Outside	Tactics
Questionnaires	15	Questionnaires	11
Additional (interview)	4	Additional (interview)	2

the technological developments that accompanied globalization. In fact, several TV channels (e.g., MBC 2, MBC Action) air movies exclusively in English. Similarly, listening to songs in English can also be seen to be a result of people's exposure to the external world offered by technology nowadays. Table 7 summarizes the learning tactics identified in this study.

5.3 Students' Evaluation of Pronunciation Learning Tactics

As well as ascertaining the frequency with which students employed various pronunciation learning tactics, the study probed students' views on the value of each tactic. This was done by asking students to respond by means of a five-point Likert scale (where 1 indicates *helps a lot*, 2—*to some extent*, 3—*sometimes*, 4—*to a limited extent*, and 5—*not at all*) to the following question: "How helpful were the tactics you use in improving your pronunciation?"

5.3.1 Inside Classroom Learning Tactics

Table 8 illustrates the students' evaluation of inside classroom learning tactics. Comparing students' evaluation with their use of learning tactics described above shows a relationship between their beliefs and practices. That is, with the exception of *listening to native speakers on tapes* and *listening and watching native speakers on videos and/or DVDs*, students' actual pronunciation learning tactics correspond with their positive appraisal of these tactics. As indicated earlier, students' limited experience of *listening to native speakers on tapes* and *listening and watching native speakers on videos and/or DVDs* can be said to be related to the teacher-centered approach generally adopted in teaching pronunciation in Jordanian classrooms as well as to the fact that both students and lecturers reported lack of use of technology for teaching L2 pronunciation.

5.3.2 Outside Classroom Learning Tactics

Table 9 shows students' evaluation of outside classroom learning tactics. Looking at the students' responses presented in Table 9, it is clear that their positive evaluation was once again related to their use of learning tactics. With the exception of *speak*

Table 8 Students' evaluation of inside classroom learning tactics

Learning tactics	1%	2%	3%	4%	5%
Write and spell words and sentences that I hear	64	6	10	6	14
Listen and repeat after the teacher	63	5	13	9	10
Listen to native speakers on tapes or CDs	56	10	9	14	11
Listen and watch native speakers on videos and/or DVDs	57	6	14	10	13
Repeat to myself or correct myself aloud	51	3	16	20	10
Ask for help from the teacher	49	3	22	9	17
Converse with peers	45	5	17	11	22
Repeat to myself or correct myself in my mind	39	3	20	16	22
Increase volume	36	5	28	11	20
Speak slowly	33	6	20	13	28
Pay attention to:					
a. word stress	77	5	9	3	6
b. consonants and vowels	69	3	11	9	8
c. rhythm	39	3	17	14	27
d. intonation	36	5	22	28	9
e. all above	29	3	28	11	29

Table 9 Students' evaluation of outside classroom learning tactics

Learning tactics	1%	2%	3%	4%	5%
Watch English movies on TV/DVD	77	5	9	6	3
Speak English with non-Arabic speaking friends	57	9	11	14	9
Repeat to myself	56	6	22	6	10
Use dictionaries and transcription	51	9	17	11	12
Listen to native speakers on tapes or CDs	56	3	14	17	10
Read aloud	49	5	22	9	15
Listen to English songs	49	3	14	20	14
Use the Internet	39	5	28	14	14
Listen to the radio	33	9	29	11	18
Speak English with Arabic-speaking friends	29	6	14	25	26
Record myself and listen to my pronunciation	17	5	11	49	18

English with non-Arabic speaking friends, the most widely used five learning tactics reported above were also evaluated as being the most helpful for pronunciation development. As explained above, the exception is the result of the scarce opportunities for contact with non-Arabic speaking people.

5.4 Categorizing Pronunciation Learning Tactics

As indicated earlier, very few studies conducted so far have sought to investigate *pronunciation* learning strategies although the broader field of language learning strategies has long been explored by researchers such as Rubin (1975) and Oxford (1990), among others. Following Oxford's categorization, I begin by summarizing below the pronunciation learning *tactics* that were reported by 40% and more of students in the present study. Eighteen learning tactics from both inside and outside the classroom are integrated to form nine learning *strategies* (in italics), presented in Table 10.

As noted above, Oxford (1990) further groups language learning *strategies* into *strategy sets* and *strategy categories*. I now group both types of learning strategies explored in the study (i.e., observable and non-observable strategies) into strategy sets and categories. These are presented in Table 11.

6 Discussion

In analyzing the types of learning strategies presented above, it can be seen that most of the learning tactics found in the study fall within cognitive strategies (e.g., formally practicing with sounds, practicing naturalistically), social strategies (e.g., asking for help, cooperating with peers) and metacognitive strategies (e.g., finding out about TL pronunciation). Some represent memory strategies (e.g., placing new words in a context), affective strategies (e.g., using music), and compensation strategies. Several studies have shown the relative importance of cognitive and social strategies in developing L2 proficiency. For example, Park (1997) found that university students' use of cognitive and social strategies helped them achieve better scores of proficiency, as determined by the Test of English as a Foreign Language (TEFL), than other types of strategies. In a similar study in Taiwan, Wu (2008) found that the use of cognitive strategies greatly influenced students' L2 proficiency scores.

The results reported above clearly reflect the nature of pronunciation teaching and classroom conditions. Students complained about a lack of use of videos, DVDs or CDs in the classroom. In addition, students reported infrequency in the use of social learning strategies (e.g., conversing with peers and ask help from the teacher). This indicates that the approach to pronunciation is teacher-centered and there is little opportunity for students to speak and practice with one another. The fact that a majority of students do not pay attention to rhythm and intonation can be interpreted as reflecting the focus of teaching practices and teaching materials which give high priority to segments. The least frequently used learning tactics were *speak slowly* and *increase volume*. This may have something to do with students' identity, psychology and culture. Students may feel more self-conscious if they speak more slowly or loudly in the classroom.

Table 10 Tactics used by 40% and more of students

Strategy	Tactic
Repeating	Listen and repeat aloud after the teacher
	Read aloud
	Repeat to myself or correct myself in my head
	Repeat to myself or correct myself aloud
Formally practicing with sounds and writing systems	Write the transcription of words
Practicing naturalistically	Listen to and watch native speakers on videos and/or DVDs
	Watch English movies on TV/DVDs
	Use dictionaries and transcription
	Use the Internet
	Use CAPT systems
Pay attention	Pay attention to word stress
	Pay attention to consonants and vowels
Cooperating with peers	Share the pronunciation of words with colleagues
	Speak English with Arabic-speaking friends
Cooperating with proficient users of the new language	Converse with the teacher
Taking notes	Write and spell words and sentences that I hear
Switch to the mother tongue	Code-switch between English and Arabic
Using music	Listen to English songs

In relation to students' use of learning strategies outside the classroom, it should be recalled that such endeavors are encouraged as contributing to developing students' autonomy and self-directedness. In a seminal paper, Acton argued that "*the most important learning and change must go on outside of the class,* not inside" (1984, p. 73; italics in original). Naiman (1992) asserted that an important aspect of communicative pronunciation teaching is to develop learning strategies outside the classroom. In a questionnaire distributed to 24 Japanese high school students who were rated to be "successful foreign language learners" to investigate strategies for their English learning experience, Tominaga (2009, p. 127) found that "formal instruction

Table 11 Strategies grouping into strategy sets and categories

Strategy categories	Strategy sets	Strategies
Cognitive strategies	Practicing	Repeating
		Formally practicing with sounds and writing systems
		Practicing naturalistically
	Analysing and reasoning	Reasoning deductively
		Analysing contrastively
	Creating structure for input and output	Taking notes
Compensation strategies	Overcoming limitations in speaking and writing	Getting help
		Using gesture
		Switching to the mother tongue
Memory strategies	Creating mental linkages	Placing new words into a context
Metacognitive strategies	Arranging and planning your learning	Finding out about language
	Centring your learning	Pay attention
Social strategies	Asking questions	Asking for clarification or verification
	Cooperating with others	Cooperating with peers
		Cooperating with proficient users of the new language
Affective strategies	Lowering your anxiety	Using music

at school did not contribute much to their acquisition of pronunciation, and that they made the best use of the opportunity *outside the school* to motivate their learning" (emphasis mine).

The analysis of data shows that students strongly believe in the role of exposure to the target language in developing their pronunciation. Given the limited natural exposure to English in the study context, students look for exposure to English through the media (e.g., watching movies in English and listening to songs in English). The results echo the findings of Pawlak's (2008, p. 314) study in which 50% of students reported "seeking exposure to English through the media" as the second most frequently used strategy outside the classroom.

Students' use of repetition techniques (i.e., repeat to myself) indicates their strong belief in the usefulness of drilling techniques to develop their L2 pronunciation. This indicates the influence of classroom teaching materials and techniques on the development of autonomy in students. However, the use of drilling techniques in the classroom may be more helpful in the presence of a teacher who can perform as a model for students to imitate and who can provide feedback on their pronunciation, an opportunity that students may not have when using drilling techniques outside the classroom.

The use of electronic dictionaries, which was reported by 63% of students, may help students outside the classroom. Indeed, dictionaries provide a valuable resource for students as they allow looking up the pronunciation of new words. Ezza and Saadeh (2011) assert that dictionaries can be a major resource for providing practice in pronunciation for EFL students in the Middle East where contact with English native speakers is limited. In a study that examined dictionary use among 471 undergraduate English major students in four Jordanian universities, Al-Qudah and Al-Qudah (2011) found that nearly all students owned and used dictionaries, with 30.4% using printed monolingual dictionaries, 20.8% using printed bilingual dictionaries, and 43.7% using electronic dictionaries. The researchers found that students use dictionaries mainly to check the spelling and correct the pronunciation of certain words, and suggested that EFL students in Jordan are concerned more about their pronunciation than about semantics.

Furthermore, over half the students (59%) in the present study reported using the "read aloud" tactic in their L2 pronunciation learning outside of the classroom. In fact, the value of reading aloud has been debated in language teaching and learning. However, Gibson (2008) argues that reading aloud can help learners to acquire the prosodic aspects of English through raising awareness and practicing different aspects of pronunciation. Reading aloud can be practiced inside or outside the classroom. In both cases, it can be a useful tactic for language learning if used appropriately, though as noted with self-repetition above, if practiced without feedback, reading aloud may be limited in value.

Looking at the less widely used tactics reported above, there is little that can be seen as surprising. Indeed, speaking English with Arabic-speaking friends is reported by fewer than half the students for two reasons: (1) students find it easier to use Arabic because it is their mother tongue and it helps them to deliver the message, and (2) using English can be seen as "showing off," which is not favored by most students, particularly by low level students. As for the similarly low incidence of speaking English with non-Arabic speaking friends, this again is likely to result from the study context, with few foreign students being enrolled at Jordanian universities.

7 Conclusion

As indicated above, the study has explored how students learn, through an examination of learning strategies, both observable *inside the classroom* and reported by students *beyond the classroom.* Inside the classroom, the IRF sequence (initiation—response—feedback) was a useful framework for understanding students' learning. Students' learning activities included *transcribing a word* or *marking word stress* on the board, activities which were usually paired with one other, that is, a student being led to *pronounce the word and repeat it in front of other students.* In all such cases, students' learning was highly structured and directed by the teacher, with verbal contributions limited either to brief answers in speech or writing or to imitations of their teachers' modelling. Moreover, this teacher-fronted approach did not allow

students to become involved in dialogic exchanges, through which a range of interpersonal meanings may be practiced. Beyond the classroom, L2 learners in this and similar contexts in the Middle East have limited opportunities for communication in English where L2 use for all but the elite is generally limited to occasional and brief code-switching. Accordingly, students' major experience of English happens in class with a teacher who is also a native speaker of Arabic. In some respects, students' strategies beyond the classroom were found to mirror those which they used in the classroom, particularly in the case of *repeating after a model* and *reading aloud*. But in other respects, students' outside learning stood in contrast to their experiences inside the classroom, and this may appear to relate in part to their stated goals and their overall motivation. Specifically, the students reported a number of independent strategies to obtain exposure to L2 through the media, in particular, favoring *watching movies in English* and/or *listening to music in English.* Additionally, the students turned to the audio components of electronic dictionaries and to computer technology more generally in order to listen to native speaker speech. Thus, it seems that students were able to locate and make use of learning strategies which complemented the kinds of learning offered by formal instruction. Indeed, it may be said that particularly in EFL contexts and in this study context where pronunciation was taught only in its theoretical dimension it is the learning which students initiate beyond the classroom which can make all the difference in achieving progress in L2 (Pawlak, 2008).

There is a caveat here, however. It is clear that students enthusiastically embraced opportunities to experience L2 beyond the classroom through English media. But such learning was confined to *receptive* L2 listening/viewing. What was missing in the kinds of experiences reported by students was engagement in *productive* L2 skills. However, in order to develop the capacity to communicate in L2, it is vital for students to have opportunities for two-way (productive) experiences as well as one way (receptive). Although informal learning beyond the classroom is clearly based on a student's own initiative, it may be said that the teacher still has a unique role here. There is enormous potential for independent learning through the web. These L2 opportunities are both *receptive*, through dedicated pronunciation sites, publishers' samples, peer resources, university links, and *productive*, through different kinds of activities afforded by peer-networks and cross-language tutor exchanges, for example. However, in order to gain maximum benefit from "beyond the classroom" experiences what is still required is teacher mediation. That is, students require the intervention of an expert in the field who can guide them through the array of possibilities to what is relevant, pedagogically-sound and effective. This represents a new role for many teachers, but a crucial one if we are to assist students to develop their potential in this area. Its inclusion in both preservice and in-service teacher education seems to be urgently needed (Snow et al., 2006).

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