Kurdish EFL learners' strategies to break apart the different L2 onset consonant clusters

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Abstract
The present paper is an attempt to identify Kurdish EFL learners' use of different strategies to deal with consonant clusters that are different from those in their first language. To prove this end, first, initial clustering system of English and Kurdish are compared and contrasted. Analysis of the contrastive task has showed that both languages share two consonant onset clustering patterns. However, English has three consonant onset clustering patterns that are not found in Kurdish consonant clustering system. Secondly, the results of the comparison and contrast lead to the question whether Kurdish learners of English use any strategies to make the different initial three consonant clusters adapted to Kurdish phonotactics. To this end, a group of 14 Kurdish EFL learners participated in this study to identify the strategies they use. Results of the study revealed that Kurdish EFL learners use insertion and substitution strategies to deal with the three onset consonant clusters. Description of the results obtained implies that Kurdish English learners should have more practice and exposure to the patterns that are different from their first language. Implications of the results, hence, can be a source by which curricular decisions are made.

Introduction

This paper touches on some phonological aspects of Kurdish and English sound systems aiming at exploration of similarities and differences that can offer pedagogical implications. The study falls within contrastive phonology principles. Eliasson (1984a) contends that contrastive phonology " compares phonological properties of two languages" (p. 7). One of those properties is the permissible patterns of consonant clusters (combinations) in syllable-initial (onset) structure. By attending to this field important insights, of the phonological systems of the two languages in contact, can be gained. Thus, the present paper is divided into two main parts. In the first part, the consonant cluster patterns of the two languages are compared and contrasted to find out any similarities and differences by which pedagogical implications are consequently explored. In the second part, the differing consonant clusters are examined by Kurdish EFL learners to identify the type of

strategy these learners use so as to make the clusters conform to Kurdish phonotactics.

The paper consists of two main parts. Part one contains five sections entitled as such pertaining to the main topic of the study. The sections are: a general overview of contrastive phonology, syllable structure, English onset consonant clusters, Kurdish consonant clusters and comparing the permissible consonant clusters patterns across English and Kurdish. Part two consists of four sections: Methodology, Study Results, Kurdish EFL learners' strategies to deal with the different clusters and Conclusion.

Part one

1.1 General Overview of Contrastive Phonology

Any contrastive phonological work entails two tasks: the first is to describe each language`s sound systems in general and their consonant clusters in particular, secondly juxtaposing the two systems to identify similarities and differences (James, 1980). Following the framework above it will fall out of the scope of this paper to present a general description of the sound systems of the two languages in question. As far as consonant clusters are concerned, permissible two/three consonant cluster patterns of the two languages is presented in the below sections. Nevertheless, a definition of consonant clusters is invaluable. Consonant cluster can be defined as " a sequence of two or more consonants at the beginning (e.g. /spl/ in splash) or the end of a syllable (e.g. /sts/ in tests)" (Richards & Schmidt, 2010, p. 120). The phonetic restrictions of these sequences vary greatly from a language to another in the arrangements of the phonemes of those languages for the onset and coda syllable structures. The phonotactics of English, for example, permits some clusters that are not permissible in Kurdish. Consonant Cluster rules define maximum contiguous consonants that occur in a syllable structure and cannot be separated by a vowel.

For the second tenet of any contrastive analysis (CA), important insights can be gained through juxtaposition of the permissible patterns by which better foundations can be formed for any future practical works. The aim of this paper is to compare and contrast between English and Kurdish consonant cluster patterns that are permissible across the two languages. The research focuses on the syllable-initial consonant clusters in particular. However, examples of the syllable-final which assist in further explaining the point are presented throughout the discussion.

1.2 Syllable Structure

Research on the syllable structures such as onsets (consonants at the beginning of syllables) and codas (consonants at the end of syllables) focuses on description of the permissible combinations of consonants in the phonological system of natural languages. Descriptions of syllable structure yield significant insights for the area of second language acquisition (SLA), particularly, L2 phonology and Non-Native accent of learners. Comparing the syllable structures of two languages is important since it can identify similarities and differences of the structures. In case of similarities

learning is facilitated and vice versa is true. For differences, learners will recourse to adjustment and modification patterns which replace the basic cluster, and strategies such as deletion, substitution and epenthesis. According to Jabbari (2011) Persian EFL learners employ different strategies to deal with the initial clusters among which epenthesis is the most widespread repair strategy to conform such clusters to Persian phonotactics. Spanish speakers apply prothesis to deal with initial /s/ clusters (e.g. Carlisle, 1994), while speakers of Korean consistently use epenthesis (Nam and Southard 1994). Ramirez (2000) maintains that epenthesis is preferred over deletion in order to break apart consonant clusters in case of Spanish. Many other studies confirm the different type of repair strategies to tackle the problem of adaptation to the foreign clusters. Hence, the significance of the present study lies in identifying the areas of difficulty for Kurdish learners of English due to influence from the native language phonotactics.

1.3 English onset consonant clusters

English syllable structure permits two/three consonants in the initial position. In English, one third of monosyllables begin with a consonant cluster, and consonant clusters predominate in word-final position (Locke, 1983). In terms of two-consonant onset clusters, Hansen (2006) states that "Initial clusters must consist of the combinations of plosive plus approximant (either a liquid or glide)." (p. 36). Roach (2000) argues that English has two sorts of initial two clusters, in one of the sorts he agrees with Hansen, in the other he contends that the cluster is composed of /s/ plus some consonants:

/sp/ e.g. speak, /st/, steak, /sk/ skim,
/sf/ sphere, /sm/ smoke, /sn/ snake,
/sw/ sway (p. 73).

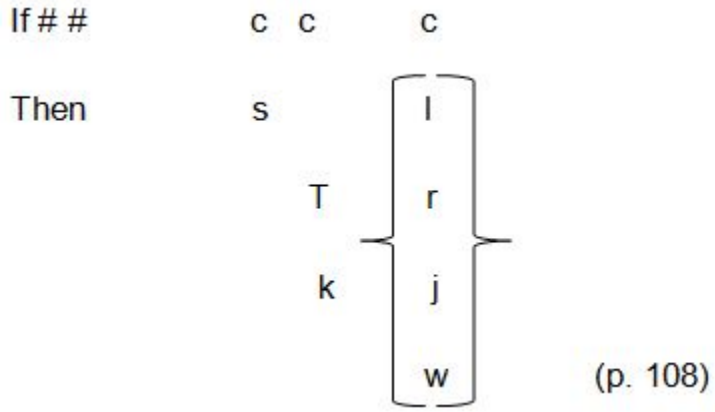
Initial three-consonant clusters, on the other hand, always have the consonant alveolar fricative /s/ in the first position of the onset, one of the voiceless stops /p, t, k/ in the second, and one of the following liquids in third position /w, y, r, l/ (Hansen, 2006, Roach, 2000 & Jensen, 1993).

Patterns (structures) of three onset consonant clusters in English are as follows:

1-/s/+/k/+/l/ e.g. sclerosis
2-/s/+/k/+/r/ e.g. scream
3-/s/+/k/+/j/ e.g. skew
4-/s/+/k/+/w/ e.g. squash
5-/s/+/p/+/l/ e.g. splash
6-/s/+/p/+/r/ e.g. spring
7-/s/+/p/+/j/ e.g. spew
8-/s/+/t/+/r/ e.g. street
9-/s/+/t/+/j/ e.g. student
an exception /s/+/m/+/j/ e.g. smew /smju:/ (Jensen 1993, p. 67)

Thus, most of the researchers (Hansen, 2006, Roach, 2000, Jensen, 1993, among others) agree that the three onset consonant clusters are formed by adding /s/ (and only /s/ is allowed in the beginning of a three consonant onset) to already

permissible two-consonant onsets, resulting in the following nine three-member onsets presented in 1-9 above. Hence, this is a severely restricted phonological rule of English language which might posit difficulties for learners of the language with differing three consonant cluster pattern first languages. Kambuziya and Serish (2006) explained this language-specific restriction with the chart below. They state that ‘’An instance of sequential constraints is found in the onset of English syllable:



(p. 108)

1.4 Kurdish onset consonant clusters

In contrast to the above permissible syllable formation with consonant clusters in English, Kurdish consonant clusters exhibit different arrangements. In terms of two consonant onset clusters, typically, "The syllable structure of Kurdish is represented as (C) CV (C) (C) (C). This means that Kurdish permits clusters of three consonants finally and two consonants initially." (Dovaise & Rahimpour, 2011, p. 76). However, McCarus (1958) stated that Kurdish language permits the three-consonant cluster and brought the example:

تخوا /txwa/ Interjection expressing surprise (p. 23).

Hassan (1991) claims that all the twenty-eight consonants are allowed in the first position except for (/v/, /γ/=/غ/, /h/, /r/ and /y/). He states some permissible patterns as they are shown below:

1-/s/+/p, t, m, n, Í/ e.g. سپی white, ستایش compliment, سمۆرە squirrel, سنور , border, سلاۆ greeting …etc.

2- /b, d, t/+/r/ e.g. برا brother, درۆ lie, تریێ grape

3-/d, g, t, k, ts, d3/+ approximant /w/ e.g. دوانە twin, گوێ ear, توێ layer, کوا؟ where is it?, چوار four, جوان beautiful.

4-/p, d, g, q, ts, d3/+ the approximant /y/ e.g. پیاو man, دیاری gift, گیان soul, قیامەت (loan from Arabic) doomsday, چیا mountain, جیاواز different and many other examples. (pp. 59-60).

To sum up, Kurdish syllable structure in the initial position permits a combination of two consonants with the above four restrictions, and the only case of three consonant combination.

1.5 Comparing the permissible consonant clusters patterns across English and Kurdish

Starting with juxtaposing the two languages` three consonant clusters, it has been noticed that the patterns are entirely different. The only rare case which exists in Kurdish in construction has no relation with the nine cases in English. As for the second type which is two-consonant cluster, few similarities and differences are noticed across the two languages. The similarities can be summarized as follows:

1- The pattern plosives + approximants e.g. few, quick/ پیاو man
2- The pattern /s/+/p, t, m, n/ with the exception of English /l/ and Kurdish /Í/ which is stronger for example: Slightly, سلاو greeting.

e.g. English: spot, stand, smile, snow

Kurdish: سپی white, ستایش compliment, سمۆرە squirrel, سنور border, سلاو greeting.

Yet, there are other similarities and differences that can be noticed in most of the pattern across the two languages which are beyond the scope of the current paper. The focus of the study is more on the different onset clusters to which Kurdish EFL learners bring strategies to get adapted to the differences.

Part two

2.1 Methodology

In the light of the above comparison and contrast of the onset consonant cluster of English and Kurdish, there are some differences of the syllable structures of the two languages. The question which raises here is how do Kurdish EFL learners deal with the differences when pronouncing those clusters. The present paper attempts to answer the following questions:

1- Are the L2 onset consonant clusters that are different from those of L1 pronounced the same way as L2 native speakers?
2- Do Kurdish EFL learners use strategies which make articulation of the clusters conform to the phonotactics of L1?
3- What kind of strategies do Kurdish EFL learners use to break apart the clusters?

To this end, a comparative descriptive method is used in the study in which data is collected from a group of 14 Kurdish EFL learners, male and female, with a mean age of 26 years, by recording their voices of L2 cluster pronunciation with combinations of three consonants. The procedure is to ask the participants to read the words chosen in which there was the combination of the three consonants. The list of the words used is provided in the Appendix A below. The same procedure is repeated with all the participants and data is also obtained from one native speaker to be used as the base to which Kurdish EFL learners' data is compared. Data is analysed using Praat – a software which can be used to change sound into text grids and graphs, to have phonetic features as sound intensity, spectrum, pitch, formant and pulses of the recorded sounds. The procedure of data analysis is carried out by cutting all the nine three clusters of all the 14 participants and the native speaker participant and calculating the duration needed for each cluster pronunciation. The

average duration of cluster pronunciation of all participants is taken to be compared with the native speaker's duration of cluster pronunciation. In another stage of data analysis, the phonetic features of spectrum, formant and pitch of cluster pronunciation by Kurdish EFL learners and the native speaker participant are compared using the graphic representations to identify the differences of the way three clusters are pronounced by both groups. In the light of the above two stages of data analysis Kurdish EFL learners' strategies that are used to make three cluster pronouncing conform to Kurdish phonotactics are searched for.

2.2 Study Results

Results obtained through inspection of the graphs reveal that Kurdish EFL learners' pronunciation of all tri-clusters is different from those of the native speaker participant in the phonetic features spectrum, formant, pitch, etc. according to the graphic representation of the recorded sounds. In the graphs, the grey colour represents spectrum, the red dots represent formant, the yellow line represents intensity of the sound, the blue line on the right side of the graphs represents the pitch and the blue vertical line above represent the pulse. For example, with the three consonant cluster /skr/ the difference can easily be observed as it is illustrated by the figures 1 and 2 below, the first figure represents the native speaker participant /skr/ pronunciation and the second is for one of the participants randomly chosen.

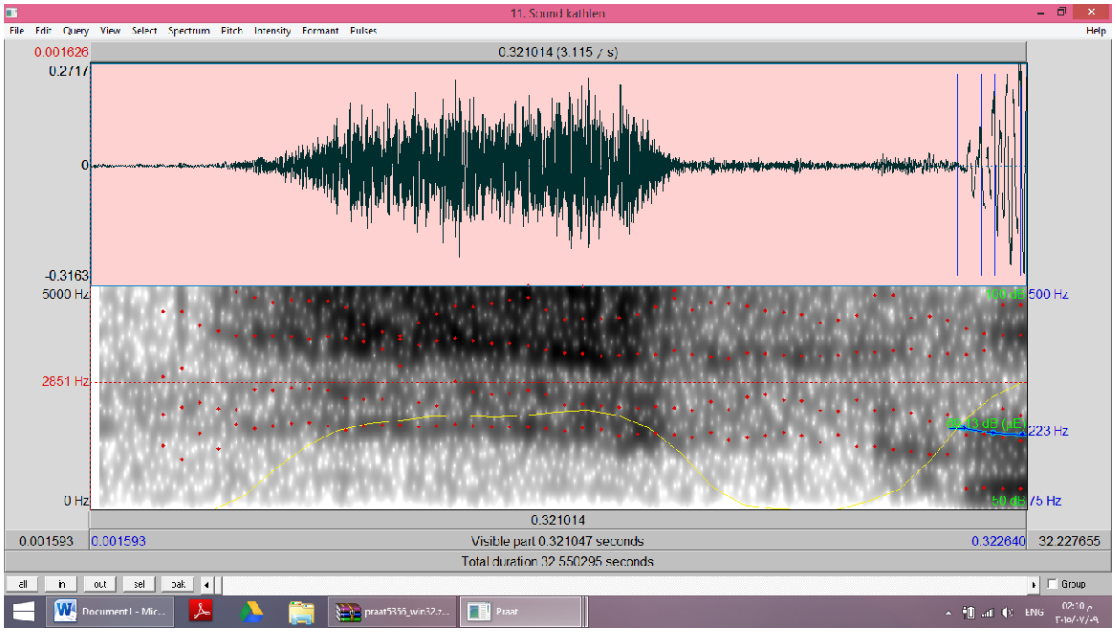


Figure (1): English Native Speaker /skr/ cluster graphic representation

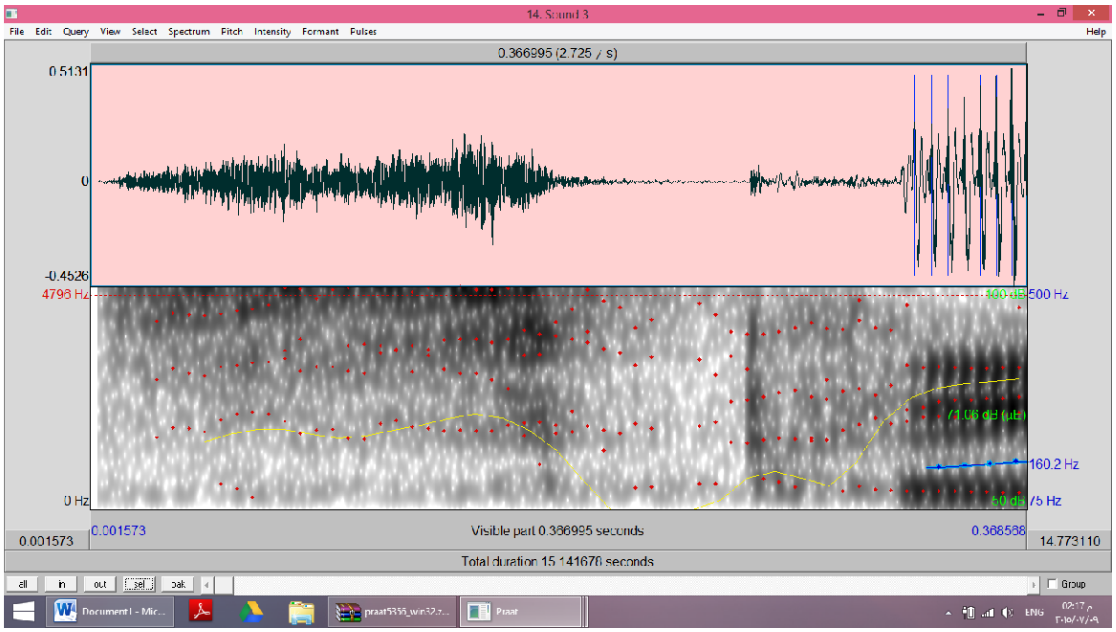


Figure (2): Kurdish EFL learner /skr/ cluster graphic representation

This is true with all the other clusters of /spl/, /spr/, /str/, /skw/, /skl/, /skj/, /spj/ and /stj/ with slight variation in each of the combinations. The variation is easily detected in the graphic representation of the sound regarding the phonetic features of intensity, formant, pitch, etc. in the Appendices B, C and D.

2.3 Kurdish EFL learners' strategies to deal with the different clusters

It is worth mentioning that for all the clusters Kurdish EFL learners are inclined to insert /i/ between the first two consonants. The duration of cluster production by the native speaker participant is not equal to Kurdish EFL learners. In general, Kurdish EFL learners' cluster production average is greater than the native speaker participant. For example, Kurdish EFL learners' cluster production average for /skr/ cluster is 0.467365 seconds while the duration needed by the native speaker participant is 0.321047 seconds, for /spl/ it is 0.495306 vs 0.478996 seconds, for /skj/ it is 0.478996 vs 0.441144 seconds. However, in some clusters the duration needed for cluster production is relatively equal for both groups of participants. Hence, Kurdish EFL learners insert an epenthesis in between the first two consonants in the cluster, as shown below (see Appendices B, C, D):

Scream /skri:m / → /sikri;m/, spleen /spli:n/ →/sipli:n/,

sclera /sklera/ → /siklera/, etc.

Another strategy is to substitute / ŕ/ with /r/ to conform to the Kurdish phonotactic for /skr/, /spr/ and /str/ clusters. The same strategy is used with /spl/ and /skl/ by substituting /Í/ with /l/:

NS pronunciation for spree /spŕi:/ Kurdish EFL learners' pronunciation: /spri:/

NS pronunciation for split /split/ Kurdish EFL learners' pronunciation for split /split/

The use of insertion and substitution as repair strategy by Kurdish EFL to break apart three consonant clusters is the way which enables those learners conform to those clusters which are not present in Kurdish phonotactic. Regarding the cluster /skj/, some of the participants substituted the semi-consonant /j/ with /w/, hence, the

pronounced the word skew /skju:/ as /skwi:/ as repair strategy or lack of knowledge about the correct pronunciation of the word. However, deletion strategy is not present as repair strategy to conform to Kurdish phonotactics.

Conclusion

In this study, consonant clustering system of English and Kurdish has similarities and differences. Both systems have two initial consonant clusters. Regarding three onset consonant clusters English has different system; it has the clusters /skr/, /spl/, /spr/, /str/, /skw/, /skl/, /skj/, /spj/, /stj/ and the rare case of /smj/ that does not exist in Kurdish language phonetic system. The difference is found in the phonetic features of intensity, pitch, formant, etc., and might cause difficulty for Kurdish EFL learners and recourse to certain repair strategies to conform and get adapted to English phonotactics. One of these strategies is the epenthesis vowel /i/ to break apart the varying clusters. Another strategy is the substitution of the last consonant sound in the combination with another form of the same sound to conform to the native (Kurdish) phonotactics. However, no deletion strategy has been detected when analysing the data. Finally, this study has fundamental points to make about initial consonant clusters which might have pedagogical implications. Hence, course designers, teachers, teacher trainers need to bear in mind that Kurdish EFL learners need more practice with the different clusters to attain a native-like pronunciation. This can be done with focusing and emphasizing more on the divergent clusters by providing additional teaching materials that can settle that difference.

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Appendices

Appendix A

Age ……. Gender : Male ☐ Female ☐

- ***Kindly read the following words normally, please.***

1- scream – screen
2- spleen – split
3- spree – spring
4- street – stream
5- Squeeze – square
6- Sclera – sclerosis
7- Skew
8- spew
9- student – stupefy

پوختەی توێژینەوە

ئەم توێژینەوە هەوڵێکە بۆ دیاریکردنی ئەو ستراتیجییە جیاوازانەی کە فێرخوازانی زمانی ئینگلیزی کوردزمان بەکاری دەهێنن بۆ هەڵسوکەوت کردنی لەگەڵ هێشووە سیانییەکان، کە جیاوازن لە زمانی کوریدا، بۆ سەلماندنی ئەم بۆچوونە: یەکەم: هێشووە سەرەتاییەکانی زمانی کوردیو ئینگلزی بەراورد دەکرێنو شیکردنەوەی ئەم کارە بەراوردکارییە پیشانی دەدات کە هەردوو زمانەکە هێشووی دوانی سەرەتایان هەیە، بەڵام سەبارەت بەهێشووی سیانی لە زمانی ئینگلزی هەیەو لە زمانی کوردیدا زۆر دەگمەنە.

دووەم: ئەنجامی بەراوردی هەردوو سیستەمی هێشووەکانی زمانی کوردیو ئینگلیزی گریمانەکە ئەوەیە کە ئایا فێرخوازانی ئینگلیزی کوردزمان چ ستراتیجێك بەکاردەهێنن بۆ گونجاندنی ئەم هێشووانە لەگەڵ سیستەمی هێشووەکان لە زمانی کوردیدا، بۆ ئەو مەبەستە کۆمەڵێکی چواردە کەسی لەو فێرخوازانە بەشداربیان لەو لێکۆڵینەوەیەدا کردووە بۆ دیاریکردنی ئەو ستراتیژییەی بەکاری دەهێنێت. ئەنجامی لێکۆڵینەوەکە دەری خستووە کە فێرخوازانی ئینگلزی کوردزمان ستراتیژی تێئاخنینو جێگۆڕکێ بەکاردەهێنن بۆ هەڵسوکەوت کردنی لەگەڵ هێشووی کۆنسۆنانتی سیانی. وردکردنەوەی ئەنجامە بەدەست هاتووەکان وا دەردەخات کە فێرخوازانی ئینگلیزی کوردزمان پێویستیان بەڕاهێنانی زیاتر هەیەو نموونەی زیاتریان بخرێتە بەردەست بۆ ئەم هێشووە جیاوازانە ڕاسپاردەی توێژینەوەکە دەتوانرێت بکرێتە سەرچاوەیەك بۆ بڕیاردان لەسەر پڕۆگرامی خوێندن.

الملخص

هذا البحث هو محاولة لتحديد استخدام متعلمي لغة انكليزية الكرد باستراتيجيات مختلفة للتعامل مع مجموعات الحروف الصحيحة في بداية الكلمة التي تختلف عن تلك الموجودة في لغتهم الأولى" لإثبات هذه الغاية:

أولا:– تمت مقارنة نظام التجميع البدائي للحروف الصحيحة للغة الإنجليزية والكردية ومقارنتها، فأظهر تحليل المقارنة أن كلا اللغتين عندها نمطان من أنماط التجميع بداية للحروف الصحيحة, بينما أنماط التجميع الثلاثي البدائي موجودة في اللغة الإنجليزية، لا توجد أو قليلة جدا في الكردية.

ثانيا, من خلال النتائج التي تم الحصول عليها السؤال هو ما هي استراتيجيات التي يعتمد عليها الأكراد المتعلمين الإنجليزية لجعل أنماط التجميع الثلاثي البدائي المختلف تتكيف مع فونوتاكتيكس الكردية؟

وتحقيقا لهذه الغاية، شاركت مجموعة من متعلمي لغة انكليزية الكرد في هذه الدراسة لتحديد الاستراتيجيات التي يستخدمونها، وكشفت نتائج الدراسة أن المتعلمين يستخدمون استراتيجيات الإدراج والاستبدال للتعامل مع الأنماط المختلفة لجعلهم يتكيفون مع فونوتاكتيكس الكردية، وهكذا يمكن وصف النتائج التي تم الحصول عليها أن الأكراد المتعلمين الإنجليزية ينبغي عليهم المزيد من الممارسة والتعرض لأنماط مختلفة عن لغتهم الأولى.

والنتائج التى توصلنا لها من خلال هڕا البحپ، يمكن أن تكون مصدرا يفيد صانعى قرارات المناهج الدراسيه.