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The Role of Rhythmic Elements in Oral Production Among Iranian FFL[1] Students

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Abstract

Educationalists and methods designers realize that a good command over a foreign language depends on following supra-segmental elements consisting rhythm and intonation, which are considered as the first step towards mastering the pronunciation of a language.Among the supra-segmental elements, we focus on the rhythm. Since, it has been clear that despite having good pronunciation of sounds and consonants separately, most of Iranian learners of FFL, fail to realize the correct rhythm of the French language.

In this article, we try to know why Iranian FFL learners of make little attention to the correct rhythm of French or why are they totally indifferent?

In fact, our goal is to find the cause of various errors in the use of the correct rhythm among Iranian FFL learners. We realized that there is a significant relationship between age, gender and level of participants with the rhythm production and the same is true for L1 and the first foreign language (English in Iran) which are most dramatic obstacles for learning and the correct rhythm production.

Keywords: Supra-Segmental Elements, Problems of Using Rhythm, Phonetic Features, Corrective Phonetics, Iranian FFL Learners.

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1. Introduction

The prosody is the study of phonetic supra-segmental features, which is defined as the phonetic features that are covered on the chain formed by phonemes. Prosodic elements are produced by applying pressure, amount, duration and pitch. Just like phonemes, they are also sensible to be varied from one language to another.

Although they sometimes have a purely expressive function, the prosodic phenomena play an important role in language exchange, as they guide the interlocutors and allow them to anticipate so they will be able to decode the message of the speaker effectively. In addition, by performing syntactic and semantic decompositions, they facilitate the understanding of the statement (Quebec Educational Office of the French language, accessed 21 September 2015)

On this idea, educationalists and methods designers realize that a good command over a foreign language depends on following supra-segmental elements consisting emphasis, rhythm, tone, speed and intonation, which make up the first step towards mastering the pronunciation of a foreign language (Rahmatin, 2002).

Among the supra-segmental elements, we focused on the rhythm. Despite having proper pronunciation of sounds and consonants (the elements segmental), most of Iranian learners of FFL, even in an advanced level, fail to observe the correct rhythm of the French language and the rhythmic group.

In fact, the rhythmic group by Elisabeth Lhote, "is a natural mechanism of organization of oral discourse that is related, firstly, on the limitations of the respiratory and phonatory systems and secondly, on the physiology of the listening. Whatever the language, speakers tend to segment a statement in small units of meaning, to make the speech understandable by stating a phrase or a sequence of sentences that form a meaningful whole" (Rahmatin, 2002:138).

About the importance of supra-segmental elements and especially the rhythm, we simply state “the elements which are considered the basis of language acquisition / learning." (Ibid, p.195) and indeed the lyricist rhythm is the foundation of sound architecture of a language. "The speed, the different types of pauses and stress are the building blocks of rhythm" (Billière, 2002: 50).

But learning the supra-segmental elements, at the beginning of the acquisition of a new language, can face with many difficulties. "The first encountered by beginners is the segmentation of the speech. In reality, it fails to cut statements they mean in group of sense (Rahmatin, 2002: 100).

In addition, there are several other factors which are effective in producing a correct rhythm.

In fact, the problem is to know as why Iranian learners of FFL pay little attention to the correct rhythm of French or why are they totally indifferent?

Research Questions

The aforementioned problem leads to the following questions:

1. Why Iranian learners at different levels have problems using correct rhythm?
2. What is the role of factors such as mother tongue and first foreign language on the correct use of the rhythm for Iranian FFL learners?
3. What is the relationship between gender, age and level of learners with the correct production of phonetic features?

Research Hypotheses

In order to provide adequate answers to research questions, the authors could make the following assumptions:

1. It seems that excessive concentration on elements such as grammar, syntax, morph syntax, the prepared dialogue and free discussions is a barrier to learning and the use of correct rhythm.
2. The rhythm is heavily influenced by the first language and even, for the first foreign language (which is English in most cases in Iran), difficulties in the correct use of rhythm may arise from these factors thereof.
3. The rhythmic production can be found with females. It appears to be inversely related to age and directly related to the advancement of the level of learning.

Research Objectives

The objective of this research is to find the cause of various errors in the use of the correct rhythm among Iranian FFL learners and hence; to correct them in a proper manner.

2. Method

This research is based on a descriptive and analytic work alongside a field study.

2.1. *Participant (Subject) Characteristics*

The statistical societyof the current research consists of Iranian learners of FFL (French as a foreign language) where a control group was formed of 30 students (10 men and 20 women) variably from TarbiatModares University of Tehran, Tehran University and Safir Institute. The age of students tested varied between20 and 40.

2.2. Sampling Procedures

To approach the subject of rhythm and its elements in oral production among Iranian learners of FFL, voices were recorded so that each learner can read 30 French phrases from the book named *Phonétique Progressive*. These sentences were three kinds of affirmative, exclamatory and interrogative. Then, after recording the voices of participants, they were analyzed with PRAAT software.

2.3 Sampling Procedures

2.3.1 Measures and Covariates

Praatgave information about the phonetic features for each sentence pronounced. These are the phonetic features Duration, Frequency, the Amplitude, The Minimum Amplitude, The maximum Amplitude, Amplitude mean, R.M.S (root mean square), Energy and Intensity. In addition, the software PRAAT drew spectrograms of each sentence for each participant. Then the researchers investigated this process for the French version. In other words, the voice of a French native was used in the text ebook "*Phonétique Progressive*". These 30 sentences which were uttered by native speaker were put in PRAAT software which gives us information on 8 phonetic features phrases and similarly, for which we draw the spectrograms. Finally, we analyzed the data obtained with the SPSS software; the results will be shown in the following sections.

3. Results

To realize the details of difficulties of Iranian students learning the rhythm and, more specifically, to find the relationship between three factors of age, gender and level of learners as well as the correct application of rhythm, we analyzed data collected by PRAAT software. The results are as follows:

To assess the effect of age on phonetic characteristics of learners, the correlation

between age and the score difference between learners and the French standard was calculated and the results were discussed in the following table:

Table 1 Matrix of Correlations between Age and Difference of Phonetic Features with the Standard

Correlations										
		age	**mean.dure.d**	**mean.fr.d**	**mean.Amin.d**	**mean.Amax.d**	**mean.mean.d**	**mean.rms.d**	**mean.energi.d**	**mean.intencite.d**
age	Pearson Correlation	1	-.066	-.327	.235	-.003	.143	-.355	.425*	-.372*
	Sig. (2-tailed)		.729	.077	.212	.988	.451	.054	.019	.043
	N	30	30	30	30	30	30	30	30	30
mean.dure.d	Pearson Correlation	-.066	1	-.344	.391*	-.538**	-.392*	-.261	.161	-.279
	Sig. (2-tailed)	.729		.063	.033	.002	.032	.164	.396	.136
	N	30	30	30	30	30	30	30	30	30
mean.fr.d	Pearson Correlation	-.327	-.344	1	-.696**	.669**	.156	.672**	-.322	.728**
	Sig. (2-tailed)	.077	.063		.000	.000	.412	.000	.083	.000
	N	30	30	30	30	30	30	30	30	30
mean.Amin.d	Pearson Correlation	.235	.391*	-.696**	1	-.330	-.367*	-.617**	.411*	-.712**
	Sig. (2-tailed)	.212	.033	.000		.075	.046	.000	.024	.000
	N	30	30	30	30	30	30	30	30	30
mean.Amax.d	Pearson Correlation	-.003	-.538**	.669**	-.330	1	.295	.414*	-.185	.413*
	Sig. (2-tailed)	.988	.002	.000	.075		.113	.023	.328	.023
	N	30	30	30	30	30	30	30	30	30
mean.mean.d	Pearson Correlat	.143	-.392*	.156	-.367*	.295	1	.201	.041	.194

	ion									
	Sig. (2-tailed)	.451	.032	.412	.046	.113		.286	.829	.303
	N	30	30	30	30	30	30	30	30	30
mean.rms.d	Pearson Correlation	-.355	-.261	.672**	-.617**	.414*	.201	1	-.583**	.978**
	Sig. (2-tailed)	.054	.164	.000	.000	.023	.286		.001	.000
	N	30	30	30	30	30	30	30	30	30
mean.energi.d	Pearson Correlation	.425*	.161	-.322	.411*	-.185	.041	-.583**	1	-.620**
	Sig. (2-tailed)	.019	.396	.083	.024	.328	.829	.001		.000
	N	30	30	30	30	30	30	30	30	30
mean.intencite.d	Pearson Correlation	-.372*	-.279	.728**	-.712**	.413*	.194	.978**	-.620**	1

*. Correlation is Significant at the 0.05 level (2-tailed).

**. Correlation is Significant at the 0.01 level (2-tailed).

As seen in the table above, regarding the age variable, it is precisely the phonetic features of energy and intensity that are significant and among other phonetic features such as duration, frequency and amplitude; there is no significant relationship with age.

As regards the phonetic characteristic of energy, increasing the age of students, the difference in average energy phrases pronounced with that of the more standard it becomes. That is to say, the variable of age has a direct effect on the energy produced and the younger learners are closer to the French version.

Table 2 Analytical Verification of the Results of Independent Test Samples

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
mean.dure.d	Equal variances assumed	3.641	.067	-1.577	28	.126	-.30244	.19180	-.69533	.09044
	Equal variances not assumed			-1.944	27.986	.062	-.30244	.15558	-.62114	.01625
mean.fr.d	Equal variances assumed	2.574	.120	.951	28	.350	99.13980	104.20992	-114.32455	312.60416
	Equal variances not assumed			.817	12.670	.429	99.13980	121.28368	-163.57273	361.85234
mean.Amin.d	Equal variances assumed	.023	.880	-.411	28	.684	-.00924	.02247	-.05527	.03679
	Equal variances not assumed			-.407	17.633	.689	-.00924	.02270	-.05700	.03852
mean.Amax.d	Equal variances assumed	.434	.516	1.448	28	.159	7.41263	5.12092	-3.07710	17.90235
	Equal variances not assumed			1.346	15.068	.198	7.41263	5.50864	-4.32415	19.14941
mean.mean.d	Equal variances assumed	1.366	.252	-.405	28	.688	-.05572	.13748	-.33734	.22590
	Equal variances not assumed			-.346	12.506	.735	-.05572	.16105	-.40505	.29361
mean.rms.d	Equal variances assumed	.136	.715	-1.248	28	.222	-.03123	.02501	-.08246	.02001
	Equal variances not assumed			-1.341	21.918	.194	-.03123	.02328	-.07952	.01707
mean.energi.d	Equal variances assumed	9.444	.005	1.402	28	.172	.20178	.14397	-.09313	.49669
	Equal variances not assumed			1.143	11.475	.276	.20178	.17646	-.18466	.58822
mean.intencite.d	Equal variances assumed	.006	.941	-1.107	28	.278	-1.21536	1.09799	-3.46448	1.03377
	Equal variances not assumed			-1.119	18.629	.277	-1.21536	1.08623	-3.49193	1.06122

The second factor, which is intensity, is inverse meaning that increasing the age of learners, the difference of average intensity of phrases spoken aloud with that of the natives is reduced. In fact, the age factor has an indirect effect on the intensity produced by Iranian learners of FFL and intensities of sentences produced by older learners are closer to the French standard.

To examine the difference between men and women with regard to phonetic features, we used the standard t-test. The results showed that the difference of phonetic characteristics from the standard is significant in some phonetic traits among men and women. We can see this result in the work of researchers like Pimsleur, Suter, Carroll, Liski (quoted by Bogaards (2000) that gender factor has little effect on the learning of foreign languages in middle age and elderly. Rahmatian and Otroshi also confirm this idea in their article entitled "Assessment of the effect of gender in the process of learning a foreign language," that from ages 16-17, the difference between men and women disappears and they react the same way in learning and production of L2 (Rahmatin, 200:4).

Then we compared the students from three levels A1 and A2 and B1 of the point of view of different phonetic characteristics compared to standard via the ANOVA test. The design of this test results are shown in Table 3:

Table 3: One-Way Variance

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
mean.dure.d	Between Groups	3.371	2	1.686	11.085	.000
	Within Groups	4.106	27	.152		
	Total	7.477	29			
mean.fr.d	Between Groups	354602.903	2	177301.452	2.754	.082
	Within Groups	1738067.339	27	64372.864		
	Total	2092670.242	29			
mean.Amin.d	Between Groups	.031	2	.015	6.527	.005
	Within Groups	.064	27	.002		
	Total	.095	29			
mean.Amax.d	Between Groups	1400.781	2	700.391	4.898	.015
	Within Groups	3860.641	27	142.987		
	Total	5261.422	29			
mean.mean.d	Between Groups	.070	2	.035	.271	.765
	Within Groups	3.479	27	.129		
	Total	3.549	29			

mean.rms.d	Between Groups	.020	2	.010	2.637	.090
	Within Groups	.103	27	.004		
	Total	.123	29			
mean.energi.d	Between Groups	.375	2	.188	1.345	.277
	Within Groups	3.765	27	.139		
	Total	4.141	29			
mean.intencite.d	Between Groups	40.143	2	20.071	2.783	.080
	Within Groups	194.745	27	7.213		
	Total	234.888	29			

As it is realized in the above table, the three levels A1, A2 and B1 have a significant relationship with the three phonetic features of **Time**, minimum and maximum **Amplitude** and there is no significant relationship with other phonetic characteristics such as frequency, energy or intensity. All three phonetic features (duration, minimum and maximum amplitude) have a direct relationship with the level of learners. In addition, by advancing the level of learners, we see that the difference of the average of these three traits becomes closer to that of the French standard.

4. Discussion

Any learner of the French language makes mistakes while learning. Although these errors are constructive and lead to a better understanding and correctness, they can still be problematic for a fluent communication.

The errors may vary depending on the mother tongue of learners. They are definitely related to the syntactic, lexical and phonological construction of the mother tongue not to mention the interference of one or more languages.

This article highlights the most common mistakes made by Iranian learners of the French foreign language during their evaluation. They are as follows:

• Missed syllable.
• Adding a syllable or stressed syllable.
• Adding a phoneme.
• The problem of linked vowel and consonant.
• Liaison problem.
• Incorrect placement of the stressed syllable.
• The wrong placement of articulatory organs (tongue, lips, jaw ...) change of sound of the vowel or consonant.
• Problem of distinguishing the rhythmic groups.
• Problem to make pauses at suitable point.

5. Conclusion

So, firstly, we have seen that the lyricist rhythm of the French language is an element at the same time difficult and important. It is a suprasegmental element and is accompanying intonation, the first step towards mastering the pronunciation of the French language.

At the second time from the data of this study, we observed significant relationships between effective factors and the correct use of rhythm. The role of elements such as mother tongue and the

first foreign language (English among Iranians), the complexity of French rhythm, age and level of learners were insignificant in learning and even inproducing the rhythm. According to the analysis of the data obtained, the following significant relationships were ascertained:

- There is a significant and direct relationship between age and the production of rhythm.
- The rhythm of youngest learners is closer to that of the standard.
- No valid relationship was noticed between the kinds of learners and the correct production rate,
- And finally, it was discovered that between the level of learners and the correct rhythm, there is a direct significant relationship so that learners at higher levels have less difference with the French version.

In the third step, we realized that the most common mistakes of participants occur during their pronunciation of prepared phrases.

Besides, the factors mentioned in this research such as disturbing factors in perception / production of the correct rhythm, we ought to consider individual variability, or in other words, human characters of each learner in teaching / learning the rhythmic structure, as well as the variations related to **socio-cultural** and **geographical origins** of the listener, which create a series of filters which differently influence the perception and the production of rhythm.

Abbreviations:

moyenne.durée.d: the difference of the average duration from the average duration of the standard.

moyenne.fr.d: the difference of the average frequency from the average frequency of the standard**.**

moyenne.Amin.d: the difference of the average from the average amplitudes.min, amplitudes.min of the standard.

moyenne.Amax.d: the difference of the average from the average amplitudes.maxamplitudes.max of the standard.

moyenne.moyenne.d: the difference of the average from the average amplitudes.moyenneamplitudes.moyenne of the standard.

moyenne.rms.d: Unlike the average r.m.s. (root mean square) from the average r.m.s. of the standard.

moyenne.énergie.dthe difference of the average energies from the average energies of the standard.

moyenne.intensité.d: the difference of the average intensities from the mean of the intensities of the standard.

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نقش عناصر ریتمیک در گفتمان شفاهی نزد زبان‌آموزان فرانسه در ایران

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چکیده

امروزه زبان‌شناسان و طراحان متدهای آموزشی بر این باورند که تسلط بر یک زبان خارجی به عناصر زبرزنجیری همچون ریتم، آهنگ و غیره بستگی دارد که این عناصر به عنوان اولین قدم به سوی تسلط بر تلفظ یک زبان خارجی در نظر گرفته می‌شود. در بین این عناصر زبرزنجیری تمرکز این تحقیق روی فاکتور ریتم قرار گرفت چراکه مشاهده شده بود علی‌رغم داشتن تسلط کافی در تلفظ صامت‌ها و مصوت‌ها به‌صورت جداگانه، اکثر زبان‌آموزان فرانسه در ایران موفق به ادای ریتم صحیح این زبان نمی‌شوند.

مسئلهٔ این تحقیق این است که بدانیم چرا زبان‌آموزان فرانسه در ایران نسبت به اجرای صحیح ریتم زبان فرانسه کم‌توجه یا بی‌توجه هستند؟ در واقع هدف ما از این پژوهش پی بردن به مشکلات مربوط به ریتم نزد زبان‌آموزان فرانسه در ایران خواهد بود. در این مقاله رابطهٔ بین سن، جنسیت و سطح زبان‌آموزان با کاربرد صحیح ریتم زبان فرانسه بررسی می‌شود. همچنین، تاثیر زبان مادری و نخستین زبان خارجی که در بین اکثریت ایرانیان زبان انگلیسی است مورد مطالعه قرار می‌گیرد.

واژه‌های کلیدی: عناصر زبرزنجیری، مشکلات مربوط به ریتم، ویژگی‌های آوایی، اصلاح آوایی، زبان‌آموزان فرانسه در ایران.

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