

The same song for different broadcasters

Voice and prosody in radio news

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Voice is our main communication resource but especially is the tool more important for working on radio. Voice on radio transmits, not only the explicit text, but also all the meaning and the affective dimension. Consequently, the audience attention to the radio message as well as understanding and assimilating of it, will depend on a correct and expressive use of voice through prosody. Accordingly, this paper attempts to compile data from different studies in order to characterize the use of voice and prosody in radio news. The main findings can be resumed in these three conclusions: a) the vocal and prosody changes are clearly perceived by the listeners and these have influence in the understanding of the radio message, b) the voices preferred by the listeners have a low pitch and a resonant timbre because are perceived as more credible, communicative, safe, direct, calm and natural, and c) the best use of the voice on radio for the listeners' perception is based on a correct and dynamic intonation (without a regular 'singsong') with a varied speech rate.

Radio; news; voice; prosody

1. The importance of the voice and prosody on the radio

The voice on the radio is a crucial element in this public communication. As the primary instrument for transmitting explicit text, the voice carries the entire burden of meaning and its affective dimension, providing the reference for the radio content. Even in the most basic bibliography, the importance of the correct use of voice is recognized. Therefore, many authors hold that, in radio broadcasts, the perception and understanding of the audience is determined not only by the content but by the particular form of presentation.

The voice is to the broadcaster as the hands are to the pianist. Just as a musical score is enhanced by the expertise and enthusiasm of the artist, the written word is transforming into compelling, meaningful information for the ear by the eloquence and style of the broadcaster (Utterback 2000).

Consequently, some authors have demonstrated that rendering the radio broadcasting message with vocally trained presenters favours understanding of the message content (Beighley1954; Nichols 1948). The first important aspect that supports the relevance of the use

of voice on radio is that listeners are aware of the changes that broadcasters make in their vocal parameters. Several of the studies we have conducted show that changes in the voice influence the perception that the audience has of the message. While individuals are not able to establish the specific factors, their perception of the message is modified when the message is presented along with changes in the voice.

Several studies about the use of voice on radio show that a natural presentation is a key factor in correct and pleasant radio presentations. The sample places significant value in voice presentation that is as natural as possible. Therefore, when the models are closer to that kind of speech, simulating a conversation, they are better assessed. This has been demonstrated in each of the tests we have done in different studies. In general, people do not like the exaggerations; therefore, exaggerated models of presentation occupy the last positions when evaluated. At the same time, the sample argues that a natural presentation is their preference because when the presentation is done otherwise, they lose the message content and depart from optimal understanding of the text transmitted.

In addition to naturalness, another important feature of an adequate presentation on radio is variation. This is not so much related to comprehension but to the attention of the audience. We have observed in these studies that there is one flaw the audience does not tolerate under any circumstances: a boring presentation. This feature is reflected in the existing literature, which states that monotony is the worst feature that can be attributed to a broadcaster: "In a study of prose and poetry presented to listeners in two ways, one with a normal intonation and the other with a monotonous intonation, it was demonstrated that monotony leads to a loss of comprehension" (Bolinger 1989: 68). Knapp (1982) has also cited studies of this behaviour. These studies have determined that, compared with a monotony voice, continuous variations in the speed, strength, quality, and pitch of the voice can generate greater and attention from the audience. Other authors conclude that monotony decreases the understanding of speech by more than ten percent. A study by The Gallup Organization (Glass 1994: 297), in which seventy-three percent of the sample considered a monotonous voice as a fatal error, further corroborates the importance of pitch variation. In summary, the sample constantly requires speech that is not boring, but any change in the presentation, must always develop in a natural way. This means that they choose the formats to collect major changes and are more dynamic than those with only have minor changes in the presentation. Therefore, models that are monotonous or without rhythm are given the worst evaluation. The explication is quite clear: the effective transmission of the message is lost completely when the attention of the audience is not capture. A more dynamic speech, one that is not 'sleepy', is preferred over a linear presentation that is so boring it causes the audience to lose interest and fail to pay attention to content of the radio message. Now the question is: What are the voice qualities that should be emphasized for broadcasters?

2. The voice in the radio news

The use of the voice is based on the handling and combination of three acoustic qualities: intensity, pitch, and timbre. First, intensity is the strength or power of the voice, dependent on the air pressure exerted on the vocal cords. Therefore, it represents the force or energy that drives air from the lungs to the vocal cords. This pressure causes the vocal folds to vibrate, some to a greater or a lesser extent. The perception of the intensity of the voice is reflected in the volume at which the listener hears that voice (Rodero 2003). This quality of voice is not very decisive on the radio if we consider that the broadcasters work with a microphone that amplifies the sound. Despite this, our research indicates that the intensity that one must use on radio must be strong enough to order to transmit security; therefore, it must have energy but neither too high nor too low.

The second of the acoustic qualities of the voice is pitch, which plays a critical role in the use of voice. Pitch is the height or elevation of the voice determined by the number of times per second that our vocal cords vibrate. If they vibrate many times per second, the tension is increased; the voice rises and is finally heard with a higher pitch. In contrast, fewer vibrations per second cause less tension on the vocal cords; hence, the voice drops and is therefore more somber. According to this, pitch is the voice quality that makes possible to classify sounds on a tonal scale, from low to high pitch.

According to our research, the pitch of the voice on the radio must be low. Most people prefer this kind of voice because it arouses a greater sense of credibility, trust, and confidence. This is easily understood when the voice is compared to the high pitch, for example, of the voice of a child. Because high-pitched voices are associated with children, they produce a lack of confidence. For this reason, the majority of authors recommend using a low-pitched voice for radio messages, especially in news broadcasts where credibility is one of the most valued qualities. Keith Cohler (1985: 182) stated clearly: "for broadcasters, the recording of voice is more appreciated in the two most serious tones, either a man or a woman. Sorry for the sopranos and high but it works so". All these references are fully consistent with the research that we have done. The conclusion is that the voices appropriate for radio are those that have a low pitch, due to the feelings of safety and credibility that they arouse. In one specific study (Rodero 2003), the sample was asked which voices they considered more pleasant in reporting news on the radio. For both male and female voices, the answer was clearly always the low-pitched voices. These were valued them as more powerful, safe, understandable, credible, communicative, close, direct, warm, gentle, reliable, quiet, and natural. In the other extreme, high-pitched were regarded as always sharp and described with these adjectives: cold, bored, nervous, and without authority and credibility. A recent study about this aspect but applied to politics shows the same results (Klofstad et al. 2012).

Finally, timbre is the personality or colour of the voice; it is the quality that enables us to distinguish a person just by listening to his voice. With respect to this quality, our studies indicate that the most valued voices are those that have resonance, brightness, and clarity,

because they are perceived as more important and thus more secure. In contrast, the sample hates voices that are darker and less resonant. These are the same qualities that Rodríguez Bravo (1989: 256) emphasizes in his research, stating that "this depends on how nice of a harmonious pitch of voice and attitude of the broadcaster is fairly quiet and friendly to get a sound that is relaxed and warm".

3. The prosody in the radio news

The prosody decisively contributes to structuring the discourse, distributing the information according to the relevance of the information and providing meaning to the message. If we consider that the radio news format offers greater complexity in how information is processed by the listener, the transmission of a multitude of information over a short time highlights the importance of the communicator properly using prosodic traits, especially through intonation and speech rate.

3.1. Intonation

Intonation can be defined as a group of pitch variations produced in a spoken sequence that characterises the type of sentence, differentiates the syntactic units, and defines the emotions and attitudes of the speaker. These pitch variations are expressed in phonetic or melodic groups, that is, in units of verbal sense that are delimited by pauses or pitch movements. This pitch distribution through delimitation in phonetic groups is particularly influential during information processing, given that "the listener will base her decoding of the message mainly on these (and possibly other) phonologic units, and not on the syntactic structure of the sentences" (Sosa 1999: 35). Thus, the prosodic configuration employed in radio broadcasting news fulfils several functions, which have the joint purpose of facilitating the correct processing of the message by the listener (Rodero 2007; Hirschberg & Pierrehumbert 1986).

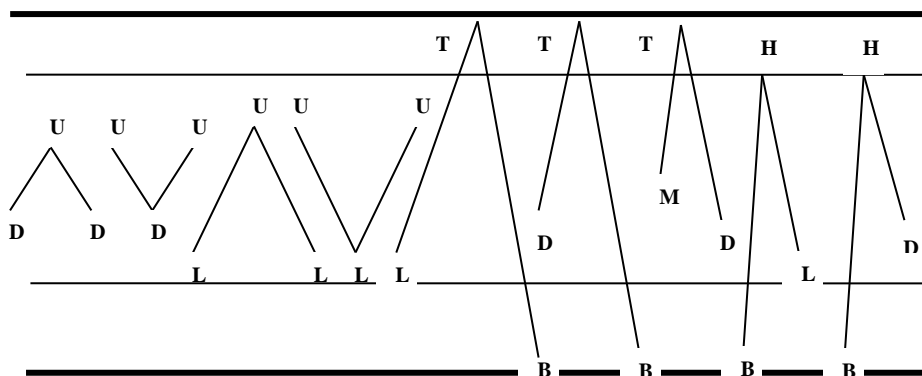
Second, prosody contributes to claiming the listeners' attention. Given that the structural distribution has a distinctive function, this helps listeners recognise that the information is relevant, thereby directing their attention to the marked information. This attention guiding is due to the contrasting function that differentiates between ascending and descending movements and between high and low tones and accent peaks, thereby creating an acoustic contrast. The listener perceives acoustic modifications in the new or relevant information that indicate the moments during which she must pay greater attention.

The few experimental research studies on prosody conducted in audiovisual media indicate a tendency of newscasters to reproduce circumflex intonation in constant and regular melody form, which is denominated as *singsong* (De-la-Mota & Rodero 2010; McGregor & Palethorpe 2008; Nihalani & Po Lin 1998; Taylor 1993; Tench 1990; Brazil 1978). Price (2008: 307) dubbed this phenomenon an 'overall intonation template' and characterised it as a hyper accentuation with an exaggerated pitch range that resulted in an abuse of the pitch prominence. In addition, the repetition of this intonation range in the newscasts occurs at regular intervals,

producing an excessive segmentation of phonic groups. Repetition of this intonation contour occurs at regular intervals in radio news bulletins, thus generating a similar rhythm throughout a broadcast. Acoustically, this prosodic pattern is perceived as a staccato and regular melody that, as such, takes place independent of the message content (Price 2008). Therefore, this accenting pattern is a practice that deviates from linguistic correctness. This error consists of regularly repeating a specific melody, which happens independently of the content. Therefore, the ups and downs of pitch occur at regular intervals, regardless of the word that is being said at the time. Obviously, if the premise is that form and content must go hand in hand, we understand that this practice has no meaning. The research we have done on this subject does not leave room for doubt (Rodero 2006). In this sense, Van Leeuwen (1984: 84) concluded that newscasters are in the habit of placing importance on everything they say, regardless of the real meaning of their words.

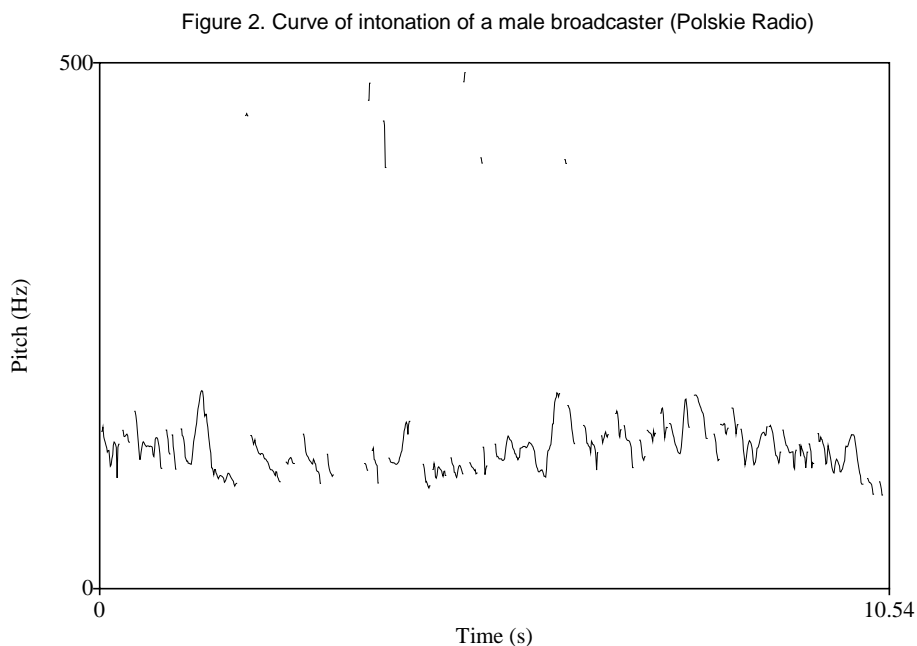
This prosodic pattern is not only detected in radio, but some research studies on television broadcasting have also found the same results. In fact, this is a tendency observed in the research analysis of Rodero and Campos (2005) in which the television presenters excessively segmented the phonic groups, in many cases producing a break in the meaning of the message. The research data of Rodero (2006) confirm that the vast majority of pitch combinations employed by television newscasters present circumflex contours with emphatic accenting at the beginning, in the middle, and at the end of their statements, as we can see in the Figure 1.

Figure 1. Pitch movements more used



The important thing of this finding is that this pattern of intonation does not depend on the language. Several authors have found this type of intonation in different countries. This means that a certain style has been formed and applied by the journalists on radio and television independent of the country and the language. For Polish, the study of Francuz (2010) shows the same findings, demonstrating that the way the news is read in television information programs influences people's understanding of the content. For this author, "the style is characterized by an excessive rhetorical accent and omitting logical accents. Sometimes even the prosodic rules of text segmentation are broken as well" (Francuz 2010: 71). In addition, it is easy to find this

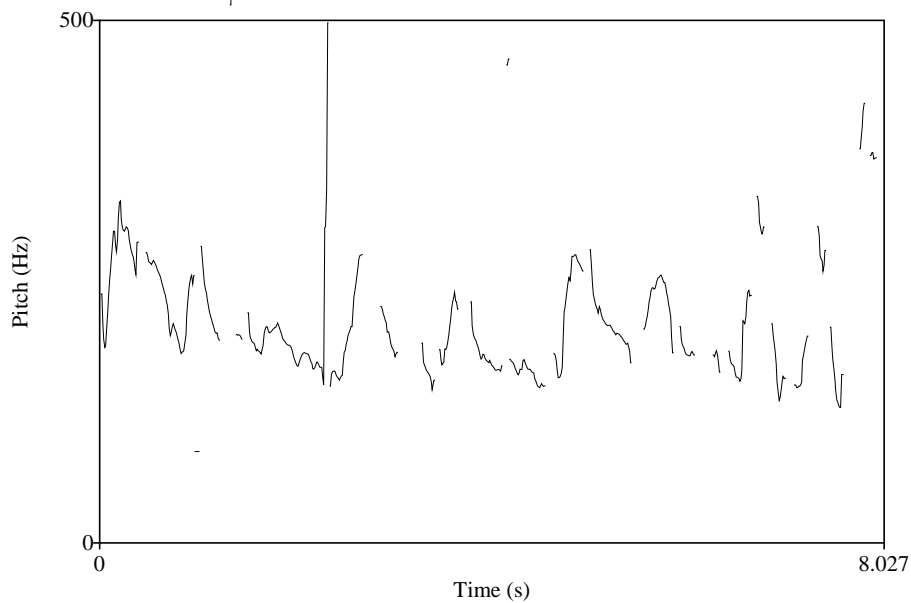
style simply analyzing the news. For instance, we have randomly selected two news bulletin of Polskie Radio, with a male and a female broadcasters. The findings are the same as studies in America, England, Australia, Russian or Spain, for example. Figure 2 shows the curve of intonation of a male broadcaster of Polskie Radio. As it can be observed, the intonation presents several circumflex contours and the main peaks have a similar pitch (188-170-185-180 Hz).



Bardzo często pojawia się taki zarzut wobec Unii Europejskiej jako, jako projektu wielkiego politycznego, że większość europejskich instytucji to nie są instytucje pochodzące z demokratycznego wyboru, tylko

The analysis done for the female broadcaster presents the same results: a marked circumflex intonation with similar peaks of pith (282-275-274-292 Hz) reproducing a regular singsong, as it is shown in Figure 3.

Figure 3. Curve of intonation of a female broadcaster (Polskie Radio)



Głównym celem wizyty jest pokazanie woli bliższej współpracy na poziomach bilateralnym, europejskim i dotyczącym bezpieczeństwa.

A possible explanation for the use of this prosodic style in the presentation of the news may be the newscaster's lack of skill in employing prosodic resources, given the presenter's intention to emphasise many pieces of the text with the objective of catching and keeping the attention of the listener (Price 2008; Strangert 2005). Thus, for Wheatley (1949: 213), radio speech is characterised by senseless pitch undulation or by misused pitch patterns that may arise from the desire to accent the expression of the discourse. Nevertheless, far from achieving this result, using this prosodic style produces several contrary effects both in the perception and the understanding of the listeners.

First, some studies have demonstrated that this prosodic type generates a negative perception in the listeners. In two research studies regarding prosody examining radio news bulletins, the sample responses valued these practices negatively (Rodero 2007). First, the responses described circumflex intonation as: "a type of intonation that is not serious. It's singsong, like that of a town crier. It's a chant, a droning, a monotone. In sum, it's ridiculous." Instead, the model that was preferred by the audience in the two investigations was a model of a natural presentation, one that always retains the content of the message so that it complies with and reinforces the language functions of this prosodic element, and for that reason, encourages the attention and understanding of the listener. Thus, the model modifies the pitch levels according to the syntax and semantic function of the discourse, and to the speaker's communicative intention. This recommendation is especially important if one does not want to produce tremendous contradictions between form and content.

Second, research studies have shown that this particular prosodic configuration affects the audience's capacity to understand. Specifically, in a study conducted by Francuz (2010), subjects remembered the details of the information the least and had the greatest difficulties in identifying the real causes for the facts, as relayed in the news. In contrast, those subjects who

saw and heard the news with an appropriate intonation demonstrated greater conviction in their answers to the questions regarding certain details about the information provided. This author also showed that the elimination of emphatic accents in favour of logical accents in accordance with prosody norms (in this case, the Polish language) did not produce a negative perception in television viewers regarding the degree of attractiveness, usefulness, or objectivity of the news. Confirming this data, research by Bean et al. (1989) demonstrated that listener understanding improved when relevant information from the message was emphasised (71%), compared to information marked as accessory information (56%) or to information that had no emphasis (57%). Thus, these results reflect a clear relationship between understanding and the prosodic traits of a message.

3.2. The speech rate

With intonation, the speech rate is one of the most important elements in a news presentation because affects the correct comprehension of the listener. As Karpf says: "You might think that, because speaking quickly makes speech less clear, it also makes it less persuasive" (Karpf 2006: 43). The reason is that a fast rhythm prevents the listener to assimilate the information because the radio works with short-term memory of limited capacity. Listener needs time to hold the information in mind. Many words without pauses in a short time will be the reason that listener loses important data and also the sense of the information: "In broadcasting, control of rate is important and reveals your sense of involvement and interest in a story" (Utterback 2000: 141). Consequently, of a correct use of this element, it's going to depend that the audience pays attention to the message and, then, understands and assimilates it.

First, it is clear that a presentation with a reading speed that is too quick and with minimal breaks impacts negatively on the understanding of the message, while a slow reading speed with too many pauses negatively affects the listener's attention. It is thus necessary to find the average between the two, and especially, to know that the speech rate has to vary depending on the meaning of each part of the message. Consistent with this idea, the tests that we have realized (Rodero 2007) show that the audience prefers this kind of speech rate because it is light and fair, does not result in loss of meaning, and is understandable and normal. However, we note that the broadcasters adopt a reading speed that is too quick and with minimal breaks, which makes it difficult for the listener to comprehend the message and gives the sensation of being hit.

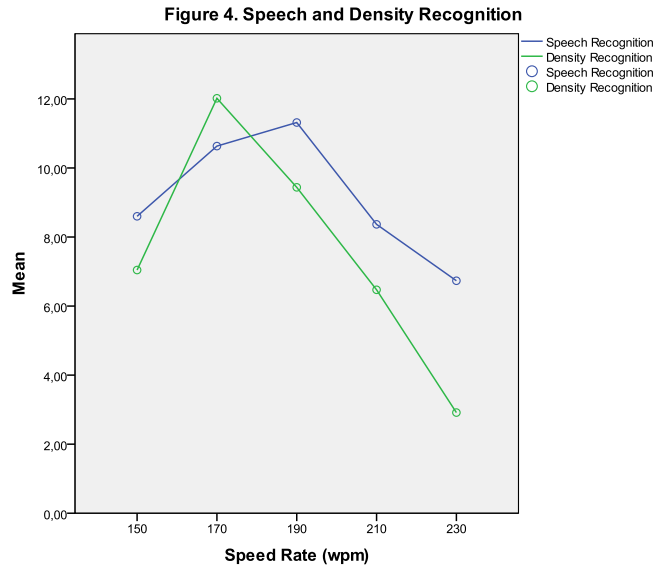
Investigations about reading speed have demonstrated the understanding begins to be difficult from 200 words per minute. Ellis considers (1993: 80) that effective listening is around the 150-200 words per minute. Up these values, understanding can be affected in a sixty percent. For that reason, most of the authors recommend a speed rate of 160-170 words per minute. Hills (1987: 135) establishes the most recommendable pace in 160 words per minute, McLeish (1978: 71) places this rate in an interval between 160 to 180 words per minute, Utterback (2000: 141) between 145 to 180 wpm: "normally we read out loud at between 145 to

180 words per minute (wpm). The most comfortable speed would be around 150 to 175 wpm” and Boyd establishes the rate between 140 and 220 wpm, although he considers 180 wpm as the most recommendable rate:

The right reading pace is one which is comfortable for the reader, clear to the listener, and which suits the station’s style. That could be anywhere between 140 to 220 words per minute. British radio usually favours three words per second, or 180 wpm, which is a natural and pleasing pace (Boyd, 2003: 182).

Chantler and Stewart (2003: 87) are of the same opinion: “the usual speed for reading on radio is three words a second. That is the theoretical standard, but in practice your style has to fit with the overall station sound.”

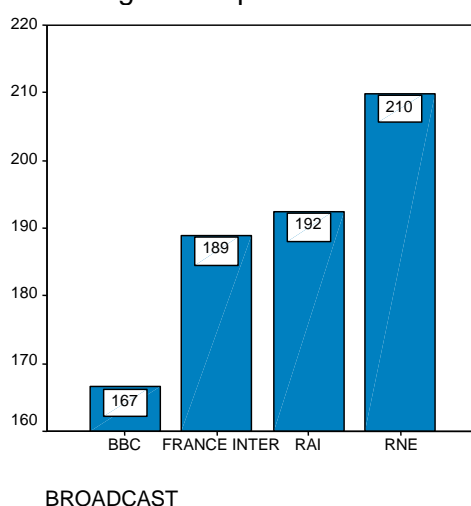
The studies that we have conducted about the best speech rate and density of information for recognizing the news on radio, have shown that the optimal pace is between 170 and 190 words per minute. First, the data illustrates that the level of recognition of the news on a radio bulletin is affected by the pace of the reader’s delivery. Bulletins perceived as having a normal pace (170 and 190 wpm) and considered as easier to understand were recognized to the greatest extent. However, those that were perceived as slower (150 wpm) and swifter (210 and 230 wpm) were assessed as difficult to understand and were recognized to the lowest degree, particularly the fastest delivered bulletin. All in all, the results allow the conclusion to be reached that the pace of delivery favouring recognition to the greatest extent is within a range of 170 and 190 wpm. This is higher than the normal pace (150 wpm) and the pace determined by certain radio researchers such as Boyd (2003), Utterback (2000), Hills (1987), McLeish (1978) and as being the optimal speech rate. This confirms that delivery speech should not be too fast or higher density as it hinders understanding. However, it should also not be too slow because this also has a bearing on recognition, probably because the listener’s attention is affected. Therefore, the speech rate must be more dynamic than the normal pace, though always with a moderate increase of between 15 and 30% and must always be compensated by information density. The higher the speed, the lower the information density should be and vice-versa. Figure 4 shows the data of this study.



The problem is that, in practice, we find much more high speeds, although it's determining, with pauses, to obtain the listener understanding. At least on Spanish radio news, some investigations have demonstrated a high speed rate, around 200 wpm, in all the national radio stations. It's a general tendency of the broadcasters because like Utterback (2000: 140) considers: "Rate is an area that many broadcasters find confusing. They feel they deliver their copy too slowly and when they speed up they get to fast. This is a common area of concern, because rate is very difficult to monitor on your own". The broadcasters need training to avoid this problem.

In this sense, we have done another study in order to analyze and compare the broadcasters' speech rate in ten news bulletins of BBC -United Kingdom-, Radio France -France-, RAI -Italy- and RNE -Spain- (Rodero 2012). If we considered the appropriate rate between 170 and 190 wpm, only two radio stations, BBC and Radio France, would be within the suitable limits, with 167 words per minute and 189 wpm respectively. In the contrary, RAI and RNE had a too high speed rate, with 192 and 210 wpm, especially RNE from Spain, surpassing 200 wpm.

Figure 5. Speech Rate



These data would be explained because in Mediterranean countries and, especially in Spain, it is spoken faster than other countries, but, in any case, we consider this speed rate as excessive for the understanding in a media like radio, although Spanish and Italian listeners are customary to a faster speech.

4. Conclusions

Through these pages, we have highlighted the importance of voice and prosody in radio news because both of them affect the attention and comprehension of the listener, as shown by several studies.

First, we can conclude that the audience is aware of and is influenced by variations in the different elements of voice in their perception and understanding of the message. In this regard, the sample welcomes the presentation that is natural and has continuous variations, but always in the proper measure.

Second, with regard to the qualities of the voice, the studies indicate that the audience prefers low-pitched voices, resonant timbres, and clear and strong intensities. This combination is the optimal to generate sensations of credibility, confidence, powerful and safety. These qualities are very important in radio news.

Along with the voice, the prosodic configuration employed in radio news fulfils a especial function contributing to claiming the listeners' attention and facilitating the correct processing of the message by the listener. The few experimental research studies on prosody conducted in audiovisual media indicate a tendency of newscasters to reproduce circumflex intonation in constant and regular melody form, which is denominated as *singsong* or technically a 'overall intonation template'. This style of presenting news on radio by the journalists is characterized by this type of intonation that it is independent of the language. Therefore, it has been found in studies in different countries, also in Polish radio and television. The problem of

this pattern of intonation is that deviates from linguistic correctness as well as it is not acoustically appropriate because of its regularity.

In addition, the speech rate has also a direct relation to listener's comprehension. If it is too fast, the understanding of the listeners can be affected but if it is too slow it could be the attention the factor affected. In this sense, the studies that we have conducted have shown that the optimal pace is between 170 and 190 words per minute. Despite of this, some broadcasters use a speech rate too fast. Thus, the main conclusion is that as in intonation, the broadcasters need more training to avoid these problems.

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