WH Questions as an Interrogative Intonation Pattern for Egyptian Learners of English

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Abstract

This study aims at investigating the way in which Egyptian learners of English can identify the various tones used in WH questions patterns. To achieve this aim, the researcher selects a sample of 30 third year Zagazig university English language students in the faculty of specific education. This study is a mixed mode research. The researcher uses both the quantitative and the qualitative method combined. The researcher sets a pre-test for the students to know how much they know about tones used in WH question as an interrogative intonation pattern. Then, after training perception, the students took a post-test to see whether they have mastered the meaning of the tones used in this pattern or not. Besides, the students listened to the conversations of the oral test recoded by a native speaker. then, they sit for a post post oral test to see whether there is any improvement in their production of the tones associated with the WH questions. Finally, the researcher finds out that the audio material recorded by the native speaker and the training courses on WH questions improve the students' awareness and production of WH questions as one of the interrogative intonation patterns.

Purpose of the study

This study aims at investigating the students' ability in identifying the tones used in WH questions as one of the interrogative intonation patterns in the written and spoken contexts.

Significance of the Study

• This study helps the students identify the various tones used in WH questions as interrogative intonation patterns easily.

• It helps teachers and professors of phonetics identify the difficulties that students may face in learning the different interrogative intonation patterns and thus they will be able to minimize these difficulties.

Limitations of the study

• This study is limited to third year English language students who are enrolled at zagazig university in the year 2016-2017.

• It focuses on the two tones used in WH questions: the falling tone and the rising tone.

• The tools used in this study are oral and written pre tests, oral and written post tests

Hypotheses

Hypothesis (1)

There would be a statistically significant difference between the mean scores of the pre and post administration of the oral test in WH questions as one of the interrogative intonation patterns in favor of the post administration."

Hypothesis (2)

There would be a statistically significant difference between the mean scores of the pre and post administration of the written test in WH questions as one of the interrogative intonation patterns in favor of the post administration."

Hypothesis (3):

The third hypothesis states that Training courses are effective in improving the students' awareness of the WH questions as an oral interrogative intonation pattern.

Hypothesis (4):

The fourth hypothesis states that Training courses are effective in improving the students' awareness of the WH questions as a written interrogative intonation pattern.

Research design

This paper is based on a mixed model research. The researcher uses both qualitative and quantitative research within a stage or across two of the stages in the research process" (p.49). The researcher examines narrative data quantitatively and qualitatively in the analysis stage. Then, a pretest /posttest design is used to discover any improvement in the students' production of interrogative intonation .First, the students take an oral and a written pretest. Then after the treatment, the same students take the same written and oral posttests. The researcher hypothesizes that the students will be able to produce more native-like intonation patterns.

Methodology

The tests

This study counts on two pre tests and two post tests. The two pre-tests include a written test and an audio-recorded test. The students take these tests at the beginning of the academic term without any prior knowledge of intonation. Then, the students take the two post tests at the end of the term. The written test consists of close-ended items .The audio-recorded test is analyzed using Praat.

Pre-test

This study includes two pre-tests: an oral and a written one. The written pre-test includes close-ended items focusing on WH questions. Then, the same students participate in the oral test which also includes short conversations focusing on WH questions as an interrogative intonation pattern. Through this test the researcher discovers the problems the students have both in the spoken and the written contexts.

Post-test

This study includes two post-tests: an oral and a written one. The students take these tests after attending some lectures on intonation in general and its interrogative patterns. The two tests focus on the tones used in WH questions.

Recording procedures

This experiment occures in the language laboratory of the English Department at the faculty of Arts to verify a good quality of the students' recordings. The students undergo six-week training on English intonation and WH questions. The oral test consists of three conversations from *Better English Pronunciation* and *English Pronunciation in Use.* The researcher used PRAAT to analyze the performance of the students in the oral test. The long time between the two tests certifies that the students couldn't revive neither the questions of the written test nor the three conversations of the oral test. Thus, the researcher can see whether there is any improvement in the production of the students.

Sample

Thirty 3rd year Zagazig university English language students from the faculty of Specific Education take part in this research. They take two oral and two written pre and post tests. The students are ignorant of the aim behind these tests. The research started in the academic year 2017-2018. The students are all Egyptians. The researcher chooses the students depending on their marks in the course of phonetics and phonology. All the stuents are females to avoid having different voice quality which may affect the results. This experiment take place in the language laboratory of the English Department at the faculty of Arts.

2.1. Theoretical Background

1.1.1. *Intonation & pitch*

intonation is a very crucial part of language. It is a suprasegmental feature. In 2002, Barker defines intonation as " a post lexical phenomena" indicating that it " can signal focus in an utterance, help in marking phrase boundaries, and provide information regarding a speaker's intention to continue or terminate speaking, or seek a response from the listener"(p.1). Gussenhoven (2004) clarifies that " an intonation contour has two structures : a morphological one, which identifies the morphemes and thus gives the meaning of the contour; and a phonological one , which gives its tones." P.22 Intonation is the most characteristic vocal means for communicating paralinguistic and indexical information" (Botinis,2000, p.2) The pitch is a main component in defining intonation. Previously, intonation was regarded "a paralinguistic phenomenon" related to "human emotion" (Barker, 2002, p.7). Roach (1992) asserts that "the pitch of the voice plays the most important part" in intonation (p.133).Similarly, Skandera& Burleigh (2005) indicate that "intonation is principally the variation of pitch, but also prominence, over a stretch of speech" (p.119). Likewise, Cruttenden (2014) asserts that " the acoustic manifestation of intonation is fundamental frequency which I perceived by listeners as pitch" (277). This idea is also explored by Jones (1972) when he defines intonation as "the variations which take place in the pitch of the voice in connected speech, i.e. the variations in the pitch of the musical note produced by the vibration of the vocal cords" (p.275). At the same time, O'connor (1998) maintains that tune plays an important role in intonation. He says:

We can say a word group definitely or we can say it hesitantly, we can say it angrily or kindly, we can say it with interest, and these differences are largely made by the tunes we use: the words do not change their meaning but the tune we use adds something to the words, and what it adds is the speaker's feelings at the moment. (p.108)

In addition, Barker (2002) claims that "age and sex" are among many factors that affect the level of pitch. He maintains that "what might be considered a high pitch peak in one part of an utterance might be a low valley in another" p.1.In addition, Cruttenden maintains three functions of pitch " (i) they signal the division of utterance into INTONATIONAL PHRASES…(ii) they signal syllables with primary and secondary accent…; (iii) the shape of the tune produced by pitch changes can carry various types of meaning, primarily discoursal…and attitudinal"(p. 277)

Importance of intonation

Undoubtedly, suprasegmental features especially intonation can affect the students' " oral proficiency and comprehensibility" (Drewing&Munro, 1997). Gumberz(1984) asserts the importance of intonation indicating how "inappropriate intonation" used by Pakistani and Indian women caused problems while serving food to some British employees. There are many difficulties in teaching intonation. Students struggle to get the meaning of the different tones more than just listening to them. Bradford (1988) maintains that there are some problems in teaching intonation. it would be tough for students to master intonation "consciously" without " destroying the naturalness of his/her speech"

Tones &functions of intonation

There are many tones in English. According to Wells (1982), "the most basic distinction among English nuclear tones is that between falling and non-falling" (p.15). Furthermore, Wells (1982) mentions that speakers can chose from several tones according to the context:

A fall tends to indicate that the information conveyed is, or could be, complete, whereas a rise or fall-rise tends to indicate that there is something more to come…the default tone… for *statements, commands,* and *wh questions* is a fall, but for yes-no questions it is a rise. A fall-rise often signals particular implications. (p.10)

Roach (1992) classifies three main functions of intonation: the accentual, the grammatical, and the discourse function. In the accentual function "the placement of stress is something that is determined by intonation" (p.172). Also, the importance of the grammatical function is asserted when Roach(1992) indicates that some sentences are ambiguous and that their ambiguity can only be removed by using differences of intonation"(p.174). In addition, the discourse function relies on two main areas:

One of them is the use of intonation to focus the listener's attention on aspects of the message that are important and the other is concerned with the regulation of conversational behaviour. (Roach, 1992, p.176)

Moreover, Skandera & Burleigh (2005) adds the attitudinal function to the previous ones. The attitudinal function depends on " the speaker's personal orientations towards what they say, or gives us clues about how the speaker's feel- whether they are uninterested, excited, or ionic" (Skandera & Burleigh, 2005, p.119).

Questions

1.WH questions.

The default tone for WH questions is a falling tone. It "descends from a higher to a lower pitch" (Roach, 1992, p.135). The tone meaning here is " the definitive fall" (Wells, 1992, p.42). Example:

' Where's my \ book?

Wells (1982) adds that a wh question can be said with a "rise" or a "fall-rise" and here the tone meaning is "the encouraging rise" (p.43). Examples:

' what's your \ name?(unmarked, businesslike)

' what's your /name? (encouraging, kindly)

In addition, Wells (1982) clarifies that there is a separate type of wh questions called "the echo question". It is "a short wh question that the speaker immediately answers himself" and it is usually said with " an interested rise" (p.43). Example:

You ' can't go ‖ ' why /not? Be'cause I \say so.

In wh questions the nucleus falls on verb to be when it consists of " wh word- *be* – pronoun" (Wells, 1982, p.145).Example:

'How 'are you?

Literature Review

Said (2012) conducts a study that examines the difficulties facing the students in the Islamic university of Gaza in the different patterns of intonation. Then, he finds that the students' awareness in the written contexts is better than their awareness in the oral ones. Moreover, Barker (2002) makes an autosegmental- metrical analysis of the different intonation patterns used in Tyrolean German. Mohamed &Dona (2015) investigates whether Sudan university English students can differentiate between the tones in the intonation of the English language or not. Also, Al-Azzawi (2005) explores the intonation of the English spoken by Iraqis and whether they are affected by the negative transfer of their mother tongue or not.Bartels (1997) makes a research that clarifies a the contours used in simple statements and questions. Also, Tehrani (2011) examines the different types of interrogatives in Persian. He studies Yes/No questions, tag questions, single and multiple WH questions, and echo questions. Similarly, Rashid (2000) examines three kinds of Kuwaiti questions: Yes/ No questions, declarative questions, and WH-questions. He finds out that these types can be "signaled by using tone groups that may be terminated with eleven(11) tones ranging from simple to complex, expressing different attitudes" (p.28). Harris (1971) examines two studies of intonation patterns of English yes/no questions. The

results indicate that native speakers of English use falling intonation when they are asked many yes/no questions to "draw out specific information" and they use rising intonation when these questions are used in "extended discourse". Also, Gunlogson (2001) investigates the declaratives used as questions in English.

Bot & Mailfert (1982) assert that the students' improvement in the production of intonation relies on their understanding of it. But Bot and Mailfert (1982) find a problem that the teachers couldn't grasp intonation "correctly". Therefore, both the students and the teachers need to enhance their level in intonation.

As a suprasegmental feature of language intonation is problematic for Arabic ESL learners. The students depend on their L1 prosodic system to understand English intonation. Students production intonation is affected by their L1 Jilka (2000) and Mennen (2004). Hence, when they communicate with English native speakers they couldn't use " the appropriate forms of intonation" like native speakers. According to Kharrat (1994) , the students add " the intonational pattern" of their L1 into their utterance, a process which he describes as " a transfer that makes their spoken English seem peculiar or vague" (p.7). He describes this process as "language interference". Their production of interrogative intonation is also affected by their L1. Ramirez and Romero (2005) do an experiment on tag questions and find that while native English speakers use falling tones in tag questions for "confirmation request". They clarify that this is due to the phonological transfer . He et al (2012) explains that it's difficult for L2 speakers of English /students to choose the correct " intonation contours" for sentences and Wennerstrom (1994)& Gut (2009) indicate that this is due to the " cross-linguistic influence". Wennerstrom (1994) demonstrates that native speakers of English can well manipulate pitch to clarify meaning and that the non-native speakers couldn't do the same in similar environments.

Results and discussion

This part focuses mainly on the hypotheses of the study. Concerning the pratical part, the statistical package for social science program (SPSS Ver.26) was used to calculate the differences between the mean scores of the experimental group on the pre and the post tests . The researcher used t-test to calculate the t-values for testing the differences between the mean scores of the study group.

Hypothesis (1):

The first hypothesis states that" There would be a statistically significant difference between the mean scores of the pre and post administration of the oral test in WH questions in favor of the post administration."

To verify this hypothesis, the researcher used the paired sample t-test to compare the mean scores of the experimental group in pre and post oral test in the WH questions. The results are presented in the following table.

Table (1): Pre -post test results of the experimental groups in oral test in the three interrogative intonation patterns.

intonation patterns	Test	N	M	S.D	D. f	t-value	sig
1- Wh/ fall	Pre	30	1.67	1.49	29	3.476	0.000
	Post	30	2.67	1.26			
2- Wh/ rise	Pre	30	.83	.986		.656	.517
	Post	30	1.00	.871			

The table above indicates that the mean scores of the experimental group students are higher than in oral test in Wh questions, where t-value is, for Wh/ fall , which is significant at 0, 01 level of significance ,but (.656) for Wh/ rise which is not significant at 0, 01 level of significance. Therefore, this hypothesis was confirmed. These differences can be attributed to the Training courses.

The following figure shows the differences between the experimental in the Pre –post oral test of WH questions
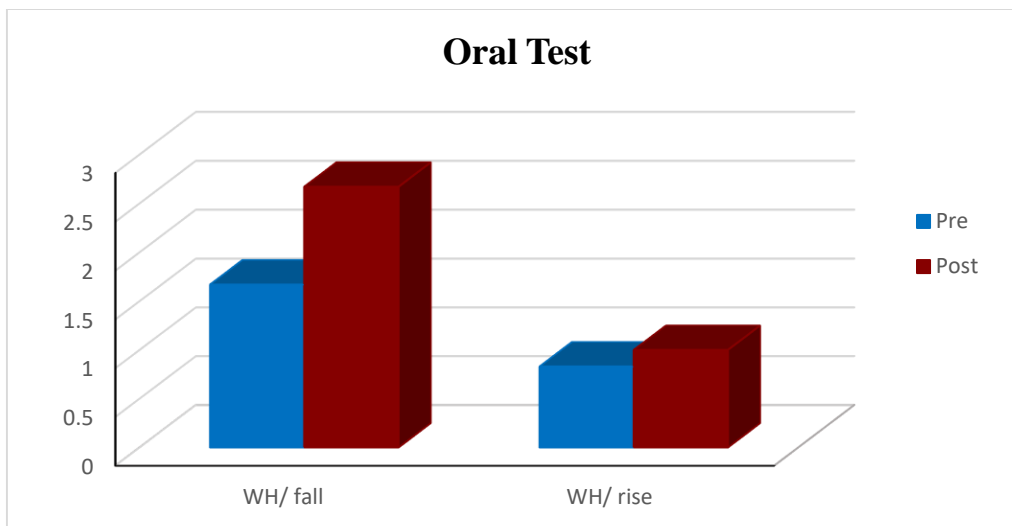
Figure (1): The mean scores of the experimental groups in WH questions, in the oral Pre- post-test.

The previous figure shows that the mean scores of experimental group students are higher in the post-test in falling intonation.

Hypothesis (2):

The second hypothesis states that" There would be a statistically significant difference between the mean scores of the pre and post administration of the written test in WH questions in favor of the post administration."

Table (2): Pre -post test results of the experimental groups in written test in the three interrogative intonation patterns.

Intonation patterns	Test	N	M	S.D	D. f	t-value	sig
1- Wh/ fall	Pre	30	2.70	1.17	29	5.11	0.000
	Post	30	4.00	1.05			
2- Wh/ rise	Pre	30	2.40	1.19		.862	.396
	Post	30	2.60	1.10			

The table above indicates that the mean scores of the experimental group students are higher than in written test in Wh questions, where t-value is, (5.11) for WH/ fall ,(.862) for WH/ rise,which is significant at 0, 01 level of significance. Therefore, this hypothesis was confirmed. These differences can be attributed to the Training courses.

The following figure shows the differences between the experimental in the Pre –post written test of WH questions, Yes/No questions, and tag questions).
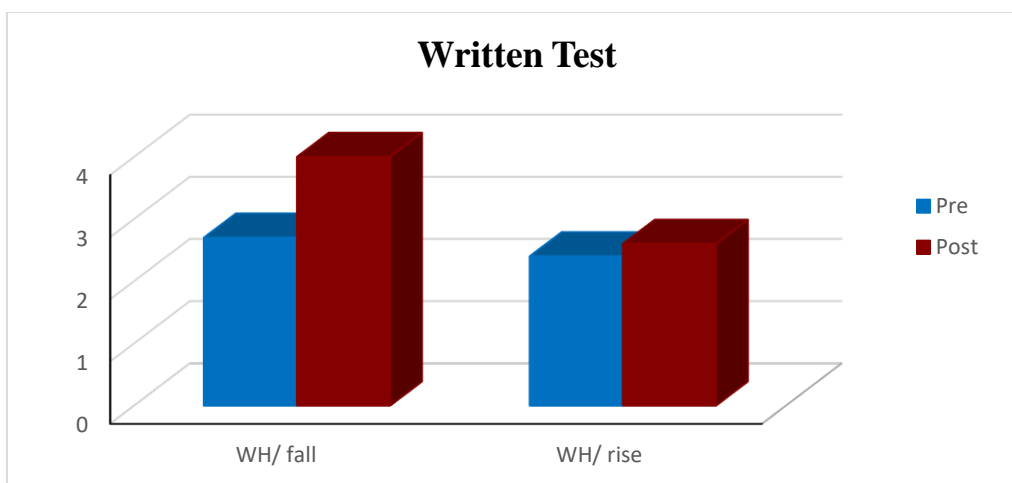

Figure (2): The mean scores of the experimental groups WH questions, in the written Pre- post-test.

The previous figure shows that the mean scores of experimental group students are higher in the post-test.

Hypothesis (3):

The third hypothesis states that" Training courses are effective in improving the students' awareness of the oral interrogative WH questions as an intonation pattern. Thus, teaching intonation to students can improve their perception in intonation and affect their performance in identifying the suitable tone for each pattern.

To prove this hypothesis, the researcher calculated the effect size by using the paired sample t-test to compare the scores of the experimental group in WH questions in the pre and the post oral test using Cohen's formula .

Cohen's formula = $\eta^2 = \frac{t^2}{t^2 + df}$

d = ES = $2\sqrt{\frac{\eta^2}{1 - \eta^2}}$

Where

$\eta^2 = Etasquare$

T= t test value

Df = degree of freedom

D= Es = effect size

Table (3): The referential framework for identifying the effect size for T- test value.

Effect size	Interpretations
From 0.2 till less than 0.5	Small
From 0.5 till less than 0.8	Median
From 0.8 till less than 1.10	Large
From 1.10 till less than 1.50	Very large
1.50 or more	Huge

Table (4): The effect size of the experimental group in the oral interrogative intonation patterns in the pre and the post test.

Skill	Test	N	M	S.D	T	Eta square	Effect size
Oral Test	pre	30	12.07	3.99	8.155	0.406	*1.653* Huge
	post	30	17.63	2.72			

According to the findings of Cohen's formula and the interpretations of the effect size, the percentage 1.653 indicated that the Training courses are effective in improving the students' awareness of WH questions

Hypothesis (4):

The fourth hypothesis states that "Training courses are effective in improving the students' awareness of WH questions as a written interrogative intonation patterns."

Table (5): The effect size of the experimental group in the written WH questions in the pre and the post test.

Skill	Test	N	M	S.D	T	Eta square	Effect size
Written Test	pre	30	16.23	3.26	5.34	0.237	*1.115* Very large
	post	30	19.70	3.05			

According to the findings of Cohen's formula and the interpretations of the effect size, the percentage 1.115 indicated that the Training courses are effective in improving the students' awareness of the written WH questions as an interrogative intonation patterns.

Conclusion

Learning English intonation is very important to avoid any miscommunication between native and non-native speakers of English. This study aims at investigating the student's ability to identify various tones used in WH questions. It investigates their ability to choose the suitable final tone in WH questions. To achieve this aim the researcher chooses the top 30 third year English language students to participate in this study. It clarifies the performance of the sample as Egyptian learners of English in both written and audio-recorded pre, post tests. The results of the thesis rely on four main hypotheses that need either verification or rejection. The first one clarifies that there would be an improvement in the overall performance of the chosen sample in the oral test after the six-week training on English interrogative intonation. After analyzing the sample's utterances of the pre and post oral test using PRAAT, this hypothesis is verified. The paired sample t-test's results asserts that there is an improvement in the oral test.

The second hypothesis tackles whether would be any improvement in the production of the students in the written test after the training course. After analyzing and comparing the results of the pre and the post written tests, this hypothesis is also verified.

The third hypothesis clarifies the importance of the training intonation courses in improving the students' production of the oral interrogative pattern. Cohen's formula and the results of the effect size prove that the students' awareness and production of intonation are greatly affected through these perception taining courses in intonation.

Similarly, the fouth hypothesis states that these training courses are

effective in improving the student's production in the results of the written post test. Likewise, Cohen's formula and the interpretations of the effect size verifies this hypothesis

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