



The influence of L1 on the acquisition of stress and intonation patterns of English: a case in the United States

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ABSTRACT

Most ESL learners have a foreign accent in their speech owing to the significant influence of their mother tongue on their production of English pronunciation. Most previous literature has stressed the segmental area that focuses on single sounds and provided an accurate list of the tricky vowels, along with the level of difficulty to be avoided. This research aimed to measure the level of awareness of teachers and learners regarding the topic, both qualitatively and quantitatively, and presented some efficient methods for presenting intonation, stress, and rhythm patterns. Additionally, the study examined the role of the curriculum in guiding the learning process and the impact of exposing learners to native speakers in defining certain variables. To collect the data, the researcher used interviews, observation, and questionnaires. There were 15 non-native and TESL Ontario-licensed teachers participating in this study, who were interviewed. The study found a significant link between the teachers' degrees and experience and the level of awareness, tolerance to the learners' mistakes in this area, and the curriculum focus. This study contributes to the understanding that exposing ESL learners to native speakers' accents can help facilitate the concept of acculturation and prevent diglossia in the English language learning process.

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Introduction

To address the issue that ESL learners do not produce native-like pronunciation, most literature has focused on the acquisition of segmental features and single-word pronunciation, comparing the two phonological systems — English and the mother tongue — to compile accurate lists of consonants and vowels that confuse ESL learners. The researcher explored the suprasegmental features, as defined by Celce-Murcia (2010), which are elements of speech that extend over more than one sound segment, including stress, rhythm, and intonation. Suprasegmental features can be seen as the “melody” of language,

shaping not only what is communicated but also how it is conveyed. As Sharma (2021) states, suprasegmental features play a prominent role in determining the mood, sex, emotional state, gender, and age of the speaker, as well as the meanings of their utterances. For ESL learners, developing proficiency in suprasegmentals significantly enhances intelligibility, fosters more engaging interactions, and builds greater confidence in real-world communication settings. These features can change the meaning of the sentence even when the words stay the same. In addition, learners who master these features are more likely to produce natural-sounding speech, be understood, and sound fluent even if they make occasional segmental errors. Suprasegmentals help learners understand the grammar and organization of speech.

Yates and Zielinski (2009) classified stress errors into three categories: stressing the unstressed syllable, stressing the wrong syllable, and deleting syllables in connected speech. Yedomakha (2013) highlighted the importance of supra-segmental features as English proficiency assessors tend to evaluate stress, rhythm, and intonation skills because they are correlated with comprehension. To start teaching the language by teaching intonation, Almbark (2014) illustrated that babies learn the rhythm of the language before learning the language itself. Bin-Hady (2016) elucidated the effectiveness of teaching stress and intonation at the very beginning to form the base on which learners will build their learning. Additionally, Hahn (2004) demonstrated the value of suprasegments in communication, as they highlight melodic aspects by focusing on pitch and the use of rising and falling patterns. Al-Abdely and Thai (2016) ascertained that tone and intonation affect the sound, the part of speech, sometimes the meaning of the word, the connotation of the sentence, and produce a non-native pronunciation.

Gong et al. (2015) posited that learners re-phonologize their already-developed L1 phonological system to acquire English sounds through assimilation and interaction. The researchers employed the Hidden Markov Modeling (HMM) technique to assess the high degree of L1 interference in L2 perception and the cross-linguistic similarities. The researchers found the bilingual systems are active at the beginner level, then learners began to follow the following techniques: Blend (adding more L2 inputs progressively), Adapt (the sequence of exposure to L2 for the drill), and Separate (the ability to separate L1 and L2 sounds) to achieve self-learning autonomy. Altamimi (2015), Ahmed (2013), and Al-Saidat (2010) highlighted that some learners unintentionally insert anaptyctic vowels to break up consonant clusters. This leads to adding unnecessary syllables to the word and confusing the stress pattern. Substituting some sounds with the closest L1 sounds leads to different syllable sequences and disorders in the intonation. Hago (2015) explained that this insertion is the result of the outnumbering of consonants and vowels in L1 compared to English. Asassfeh et al. (2011) showed that L1 influence might create intralingual errors not only in pronunciation but also in syntax and structure.

From the perspective of Second Language Acquisition (SLA) theory, the study of suprasegmental features—including intonation, stress, rhythm, and pitch—is increasingly recognized as a fundamental aspect of L2 phonological development. Although early pronunciation instruction often emphasized segmental accuracy, recent SLA research has demonstrated that suprasegmentals play a more pivotal role in speech comprehensibility and communication effectiveness. Derwing and Munro (1997) argued that inappropriate suprasegmental patterns can negatively affect listener comprehension more than isolated

segmental errors. This finding aligns with Schmidt's (1990) Noticing Hypothesis, which maintains that learners must consciously attend to linguistic features in the input to acquire them—an important consideration, given the low salience of suprasegmentals in everyday speech. Moreover, Krashen's (1985) Input Hypothesis underscores the importance of exposing learners to naturalistic, prosodically rich input to facilitate acquisition beyond the segmental level. Long's (1996) Interaction Hypothesis further supports the communicative role of suprasegmentals, as prosodic cues help manage conversational flow, highlight focus, and indicate speaker intent during interaction.

Most studies have primarily focused on segmental features, investigating how a learner's first language (L1) influences English pronunciation and comparing the production of individual sounds across languages. However, there is a noticeable lack of research addressing the impact of suprasegmental features—such as stress, intonation, and rhythm—on English pronunciation. For instance, in many Arab countries, speakers tend to rely more heavily on facial expressions to convey meaning rather than utilizing prosodic elements, such as stress and intonation, which are essential for effective communication in English. More specifically, this study aims to investigate the following question: What is the influence of L1 on the acquisition of English stress and intonation patterns?

Method

Research design

The awareness of a problem's existence is the first step toward a solution, as both teachers and students will start re-evaluating their practices to identify the problem, collect all necessary data, and develop strategies to overcome it. Therefore, the awareness of teachers and learners regarding the topic is the first research question that needs to be addressed. El-Zarka (2013) explained that error analysis for pronunciation problems can lead to raising awareness because it enables individuals to perceive the causes of these errors. Gass et al. (2008) illustrated that errors represent a red flag that urges both teachers and students to take action by identifying the area that needs improvement and planning to address the issue.

Phonological awareness, which includes rhythm, alliteration, and intonation, enhances aspects of language acquisition and self-learning autonomy, facilitating comprehensibility and fluency (Mirza, 2015). Altamimi (2015) and Ali (2015) emphasized the importance of raising awareness and sensitivity in distinguishing slight differences among sounds through motivation. The researchers focused on the sociocultural theory that suggests that enhancing collaboration and interaction leads to a profound understanding of English intonation and improves learners' attitudes. The research found some reasons behind the low awareness.

Research setting and participants

In this research, invitations were sent to 15 non-native and TESL Ontario-licensed teachers to participate in semi-structured interviews voluntarily; seven teach CLB 1&2 and have two years of experience or less, five teach CLB 3&4 with 5-8 years of experience, and three teach CLB 5&6 with eight years of experience (Appendix 3). The sample size guarantees the validity,

reliability, and generalizability of the findings. The data collected were categorized thematically to answer the research question, along with its variables.

Data collection

In this study, the researcher employed interviews, observation, and questionnaires to collect the data. In this research, the researchers used semi-structured interviews. Another data collection technique is classroom observation. Punch (2009) described this technique as a “pivotal activity” for determining causes and proposing solutions. The researcher conducted observations during teacher-student conversations, reading and speaking classes, presentations, role-plays, and the introduction of new vocabulary to investigate the extent to which L1 interferes with English patterns and whether this interference affects individual words or whole sentences. The observation helped in assessing how much the teacher tolerates the topic and the effect of this tolerance on the student’s awareness of the issue’s importance. The in-class observation lasted one hour for each level, with ten learners, totalling three hours a day and thirty learners over ten days. An observation sheet (Appendix 1) was used.

The researcher has a list of hypotheses to test in order to answer the research question. The observation sheet structure helps to analyse data thematically and compare the relations or the correlations among variables. The length enables the researcher not only to define the salient factors but also to specify the interrelationships among those factors.

Another technique used by the researcher is conducting questionnaires. Initially, an invitation was sent to 20 ESL teachers with experience ranging from two to ten years to participate voluntarily in a 22-question survey targeting the research question; some of the questions were closed-ended, using a Tri Regression Measurement (agree-disagree-not sure) format to be analyzed quantitatively (Appendix 2).

Data analysis

A positive correlation was found between experience focusing on intonation. In contrast, teaching, as experience, draws the teachers’ attention to the holistic perspective of language acquisition, as teachers spend more hours with their learners in the computer phonetics lab each week, through classroom observation and analysis. Observation data from the reading, presentation, and role-playing classes revealed that teachers are aware of the importance of intonation only in question forms. Though learners seldom change the pitch, pause for a comma, or even stop for a period, the teacher tolerates these mistakes. Observation data from the listening class revealed that teachers primarily focus on the main event rather than exploring what the speaker conveys through the use of rising or falling tones, and learners are hesitant to imitate native speakers.

Quantitative data were analyzed using SPSS, employing numerical tables and the progressive focus technique. This technique involves sorting, tabulating data, and reviewing salient features to answer the research questions. Starting with the quantitative data will facilitate the analysis of the qualitative data by counting frequencies. Qualitative data were analyzed using a range of methods aimed at identifying patterns, themes, meanings, and interpretations. To ensure confidentiality, the researcher transcribed the interviews,

organized relevant documents, and anonymized all data. Recurring themes and patterns were systematically identified and interpreted across the dataset. Content analysis was employed to categorize the presence of specific phrases and concepts. Additionally, the data were summarized by case and theme to facilitate meaningful comparison and interpretation.

Results and discussion

Results of statistical testing of questionnaires from the beginning-level teachers

The following four tables reveal the results from the statistical testing of the questionnaire data analysis from 20 ESL teachers. Among 20 ESL teachers, some of them had just experienced teaching the English language, ranging from one to two years. They participate voluntarily by doing a 22-question survey targeting the research question, with some of the questions closed-ended. Then, the data were analyzed quantitatively using a Tri Regression Measurement (agree-disagree-not sure).

Table 1

How Often Do You Teach Intonation?

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Rarely	5	71.4	71.4	71.4
	Sometimes	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

Table 2

How Often Do You Tolerate These Kinds of Mistakes?

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Often	4	57.1	57.1	57.1
	Usual	3	42.9	42.9	100.0
	Total	7	100.0	100.0	

Table 3

Years of Experience

		Frequency	Percent	Valid percent	Cumulative percent
Valid	1 year	2	28.6	28.6	28.6
	1.5 year	1	14.3	14.3	42.9
	2 years	4	57.1	57.1	100.0
	Total	7	100.0	100.0	

Table 4*Degree*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	B.Ed.	1	14.3	14.3	14.3
	Diploma	6	85.7	85.7	100.0
	Total	7	100.0	100.0	

Tables 1, 2, 3, and 4 demonstrate that the data illustrate the relationship among the level of education of teachers, years of experience, and the level of awareness of the topic. The higher the degree and experience of the teachers, the higher the level of awareness they have, and the less tolerance they have for learners' mistakes in this aspect.

Results of statistical testing of questionnaires from the intermediate-level teachers

The following four tables reveal the results from the statistical testing of the questionnaire data analysis from 20 ESL teachers. Among 20 ESL teachers, some had experience in teaching the English language, ranging from five to eight years. They participate voluntarily by doing a 22-question survey targeting the research question, with some of the questions closed-ended. Then, the data were analyzed quantitatively using a Tri Regression Measurement (agree-disagree-not sure).

Table 5*How Often Do You Teach Intonation?*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Rarely	1	14.3	14.3	14.3
	Sometimes	4	57.1	57.1	71.4
	Usual	2	28.6	28.6	100.0
	Total	7	100.0	100.0	

Table 6*How Often Do You Tolerate the Intonation Mistakes?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Often	2	28.6	28.6	28.6
	Usual	5	71.4	71.4	100.0
	Total	7	100.0	100.0	

Table 7*Years of Experience*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	5 years	2	28.6	28.6	28.6
	6 years	3	42.9	42.9	71.4
	7 years	1	14.3	14.3	85.7
	8 years	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

Table 8*Degree*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	B.Ed.	4	57.1	57.1	57.1
	Diploma	2	28.6	28.6	85.7
	MEd	1	14.3	14.3	100.0
	Total	7	100.0	100.0	

Tables 5, 6, 7, and 8 demonstrate that the data illustrate the relationship among the level of education of teachers, years of experience, and the level of awareness of the topic. The higher the degree and experience of the teachers, the higher the level of awareness they have, and the less tolerance they have for learners' mistakes in this aspect.

Results of statistical testing of questionnaires from the advanced-level teachers

The following four tables reveal the results from the statistical testing of the questionnaire data analysis from 20 ESL teachers. Among 20 ESL teachers, some had already had experience teaching the English language, ranging from nine years above. They participate voluntarily by doing a 22-question survey targeting the research question, with some of the questions closed-ended. Then, the data were analyzed quantitatively using a Tri Regression Measurement (agree-disagree-not sure).

Table 9*How Often Do You Teach Intonation?*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Often	2	28.6	28.6	42.9
	Sometimes	2	28.6	28.6	71.4
	Usual	2	28.6	28.6	100.0
	Total	6	100.0	100.0	

Table 10*How Often Do You Tolerate Intonation Mistakes?*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Often	1	14.3	14.3	14.3
	Sometimes	2	28.6	28.6	42.9
	Usual	3	57.2	57.1	100.0
	Total	6	100.0	100.0	

Table 11*Years of Experience*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	10 years	1	14.3	14.3	28.6
	11 years	1	14.3	14.3	42.9
	12 years	1	14.3	14.3	57.1
	15 years	1	14.3	14.3	71.4
	8 years	1	14.3	14.3	85.7
	9 years	1	14.3	14.3	100.0
	Total	6	100.0	100.0	

Table 12*Degree*

		Frequency	Percent	Valid percent	Cumulative percent
Valid	B.Ed.	3	42.9	42.9	57.1
	MEd	3	42.9	42.9	100.0
	Total	6	100.0	100.0	

Tables 9, 10, 11, and 12 demonstrate that the data illustrate the relationship among the level of education of teachers, years of experience, and the level of awareness of the topic. The higher the degree and experience of the teachers, the higher the level of awareness they have, and the less tolerance they have for learners' mistakes in this aspect.


Results of the English teachers' interviews


Interview data analysis illustrated that intonation and stress patterns are not one of the priorities of this level's teachers, as they care more about teaching the basic elements of the language, namely, forming sentences, using proper tense, producing intelligible pronunciation for the single word, and enriching their vocabulary, leaving teaching intonation and stress patterns for the advanced levels. Teachers added that they tolerate intonation mistakes as they do not want to interrupt the fluency, not give a bad impression of their performance, or appear judgmental. Some teachers mentioned, "Intonation is a luxury learners will get after passing so many stages in language acquisition." Many of the teachers mentioned that even the pre-service training did not highlight the importance of teaching intonation to beginners. Gan (2012) found that the course that prepares English teachers for the teaching field fails to address the intonation pattern.

While introducing new vocabulary, teachers introduced the part of speech and the syllable numbers, but not which one is stressed. This deepens the notion for learners that intonation and stress are not that important, although Chen et al. (2015) and Ali (2015) have explained the importance of intonation in identifying grammatical points. For example, the teacher corrected the mistakes found in the following examples, as they convey the meaning:

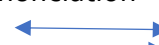
- *Please put your objects on the table.*
- *I object to this suggestion.*


Teachers tolerate the unchanging pitch movements when reading sentences that express surprise or exclamation. Erickson (2013) demonstrated that changing the position of the stress hurts the number of syllables, hence producing the wrong stressed syllable. This may affect the intelligibility of the speaker because stress patterns and the implementation of correct rhythm affect vowel quality, resulting in alternation within the phonological metrical structure. Tolerating intonation mistakes can escalate the issue to a higher level, making it much harder to solve, as it becomes a habit. From the role-play, learners made the following mistakes without any correction.

English pronunciation
e.g., she got a dog. 

She got a dog? 

ESL learners' pronunciation

She got a dog 

She got a dog? 

Both quantitative and qualitative data revealed that most teachers prefer the objectivist epistemology method, which focuses on teaching learners the individual skills of the language, claiming that learners will acquire the intonation patterns at higher levels. Teachers at this level should employ the constructivist epistemology (Cronjé, 2006), which emphasizes a holistic approach to learning by starting from the comprehensive aspect before considering individual skills (Laureate Education, 2014).

The relationship between the curriculum and textbooks influences the students' intonation

The focus of the curriculum and textbooks, which often prioritized passing the final exams in some educational systems across many countries, resulted in a rare emphasis on English intonation. Altamimi (2015) expounded that some educational systems focus on intonation only when it affects meaning, resulting in inter-lingual errors among learners. Curriculum outcomes overlook the intonation patterns in both formative and summative assessment methods (Ali, 2013). Therefore, Ahmed (2011) emphasized that speaking and listening sections should be included in both formative and summative assessments. Upon reviewing the guidelines for LINC (Language Instruction for Newcomers to Canada), intonation is not included in the evaluation criteria. Therefore, the knowledge in the curriculum is insufficient for CLB 1 and 2 (Canadian Language Benchmark); more information in CLB 3 and 4 is sufficient, but not detailed knowledge at the advanced levels.

The formative method of assessment, known in Canadian classes as PBLA (Portfolio-Based Language Assessment), which traces learners' progress, does not include their performance on intonation, and neither do the summative methods that determine whether learners are promoted to a higher level. ii. Teachers tolerate the stress and mistakes. Because the curriculum rarely focuses on stress and intonation patterns, teachers do not regularly correct students' stress mistakes, as this is not part of the exam target points (Mirza, 2015). Tolerating intonation mistakes may lead to "fossilization," as explained by El-Zarka (2013), a phenomenon in which incorrect language inputs are passed down from one generation to the next, becoming a habit that is challenging to correct. El-Zarka (2013) highlighted the effectiveness of pre-service training in avoiding anticipated pronunciation problems and in-service training in raising teachers' awareness of the topic.

The recommendations to the teachers***In-service training for teachers***

Most teachers mentioned that they did not get in-depth training on how to teach the intonation patterns during their pre-service training. Therefore, professional development training is highly recommended. Nawab (2017) demonstrated that in-service training has a significant impact on changing the attitudes and practices of teachers. In-service professional development enhances teachers' awareness and performance by providing state-of-the-art techniques on how to choose the most pedagogical methods, identify what is useful, and define the difficulties that learners face, creating ways to overcome them (Syed, 2003). Pérez Cañado (2016) claimed that integrating Content and Language Integrated Learning (CLIL), professional development, and teaching materials that focus on linguistic and intercultural competence has a positive impact on teachers' performance.

The curriculum should focus on intonation patterns

El-Zarka (2013) emphasized the importance of incorporating phonetics and phonology lessons into the curriculum, along with the International Phonetic Alphabet (IPA) and online listening exercises, to help students recognize the stress and intonation patterns of native speakers. Textbooks can direct students to online audio dictionaries and websites for listening, helping them achieve native-like pronunciation and independent learning. Ahmed

(2013) suggested that the curriculum should consider learners' needs and job requirements to develop appropriate methods for filling the gap in learners' production of English pronunciation.

Textbooks should be accompanied by recorded materials and electronic devices, focusing on transferring fluency and pronunciation correctness from the reading skill to the speaking skill. Al-Ahdal (2015) rationalized that including pronunciation teaching at the segmental and supra-segmental levels has a positive effect on acquiring native-like pronunciation. The study suggests incorporating more prosodic strategies into the curriculum, such as poem recitation, to benefit both teachers and learners. The high quality and quantity of the supra-segmental elements introduced and drilled at all levels, particularly for beginners, will help ESL learners produce native-like pronunciation. Celce-Murcia et al. (2010) stated that in-depth intonation teaching is the most efficient technique for improving English pronunciation, as it focuses on the melodic elements of the rising or falling pattern of voice.

More exposure to native speakers

Language is not only a means of communication, but it is also a means of conveying culture and civilization. Language expressions are the outcomes of ways of thinking, lifestyle, culture, history, customs, and traditions. For example, an expression like "break a leg" has a rich history, culture, customs, and tradition behind it; it is not just a matter of word order. Therefore, native speakers are the most suitable people to deliver this message. It is the acculturation model, as defined by Graham and Brown (1996), which involves integrating learners into the culture and language community. Barjesteh and Vaseghi (2012) expounded that the acculturation model is a social and psychological approach to English acquisition.

Exposing learners to native speakers represents a proper social interaction that helps learners comprehend the English context. Broughton et al. (2013) noted that learners scaffold their patterns of learning through social interactions to engage with the English social milieu. Lightbown and Spada (2006) explained that social interaction is an individual cognitive process that provides learners with an opportunity to activate their internal learning process. Ahmed and Nazim (2013) argued that exposing learners to natural speech encourages them to comprehend stress and reproduce the rhythm. Interaction with native speakers fosters the competent language that Chung and Huang (2009) define as not only acquiring knowledge of language elements but also the ability to apply this knowledge in real-life situations. If interacting with native speakers is not available, using multimedia is an effective alternative.

Using multimedia

Integrating technology enables teachers and learners to listen to native speakers with all accent varieties and slang language. Watching TV, YouTube, or any multimedia in the classroom creates an entertaining language-learning environment. Chapelle (2005) illustrated that multimedia fosters self-learning autonomy and individualism. Al-Shamayleh (2014) stated that the effectiveness of using technology as a fast and comprehensive method to expose learners to various English situations and promote pronunciation acquisition in areas such as stress, rhythm, and intonation. Following the CALL program, Computer-

Assisted Language Learning, Bin Hady (2016) noted that digital tools facilitate learning outside the classroom.

Conclusion

Investigating the reasons for not producing proper English pronunciation among ESL learners and the role of L1 influence, this study employed interviews, classroom observation, and questionnaire methods to define the reasons and propose recommendations. The research question was, "Investigating the influence of L1 upon producing proper English pronunciation in the intonation and stress patterns areas." The study found that in-service training for teachers is an effective method for exposing teachers to new approaches and enabling them to recognize the importance of focusing on language intonation and stress syllables. Additionally, the school curriculum should highlight the importance of teaching intonation and stress patterns to learners and use them as expected learning outcomes to be measured. Textbooks should include audio links to videos to facilitate immersion in English culture. Exposing ESL learners to native speakers' accents helps establish the concept of acculturation and avoid diglossia in the English language learning process. Multimedia and digital tools can facilitate the use of native speaker dialects and create a social learning environment in the classroom in entertaining and attractive ways. Following the constructivism theory, which focuses more on the whole and then funnels down to the details.

The 14 Middle Eastern countries share a standardized form of written Arabic; however, each country has its distinct spoken dialect, which can differ significantly from those of other nations. These dialectal variations occasionally lead to misunderstandings, even among native Arabic speakers. Consequently, when speakers from these countries pronounce English, their native dialects can influence the suprasegmental features of their English speech. Given the limited scope of this study, dialectal differences were not individually examined. The researcher, therefore, recommends conducting separate studies for each country to more accurately account for the influence of specific dialects on English pronunciation.

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Appendix 1. Approaching the observation sheet

Lesson topic:

Lesson's targeted skill:

Student level:

Observation elements:

- 1) How much do Arab learners apply the stress and intonation patterns?
- 2) Do they use facial expression instead of the real intonation?
- 3) How much does the L1 interfere with the English pronunciation acquisition?
- 4) How much are the learners aware of this interference?
- 5) Does this interference appear more on a single word or the whole sentence?
- 6) What are the learners' techniques for adopting a native-like pronunciation?
- 7) What impedes them from getting native-like intonation patterns? Shyness? Not enough exposure to native speakers through the phonetics lab? Care more about pronouncing single words? Intonation has the least priority (important but not that much)?
- 8) How much does the teacher tolerate the stress and intonation mistakes?
- 9) When does the teacher correct the stress and intonation mistake? Only when it affects the meaning?
- 10) Do the learning materials focus on the intonation?
- 11) Do both the teacher and the learners aim at producing native-like intonational sentences?
- 12) Do learners progress better when the teacher provides them with high-quality information and sufficient drill on the point?
- 13) What techniques does the teacher follow to introduce the pronunciation-related points?

Appendix 2. Teacher's questionnaire

Please add your explanation under each question:

- 1) How long have you been teaching English as a Second Language (ESL)?
- 2) What education level do you have (Diploma in Education- B.Ed.-M.Ed.)?

- 3) Do you think Arab Learners are aware of the importance of producing native-like stress and intonation patterns? If no, why?
 - a. Mother tongue interference
 - b. Students do not perceive the importance of the topic.
 - c. The teaching materials do not give enough focus.
 - d. Teachers tolerate these kinds of mistakes.
 - e. Others:
- 4) How often do you teach the following?
 - a. Stress (Very often-often-sometimes-rarely)
 - b. Intonation (Very often-often-sometimes-rarely)
 - c. Rhythm (Very often-often-sometimes-rarely)
 - d. IPA (Very often-often-sometimes-rarely)
- 5) Regarding each item, is it taught and practiced in your classes?
 - a. Pronunciation of individual words (frequently-sometimes-rarely-never)
 - b. Stressed syllable of the word (frequently-sometimes-rarely-never)
 - c. Producing native-like intonation (frequently-sometimes-rarely-never)
 - d. Rhythm producing (frequently-sometimes-rarely-never)
- 6) What kind of English pronunciation do you suggest to your students as their target in learning pronunciation?
 - a. Tolerating their Arabic accent
 - b. Intelligible pronunciation
 - c. Native-like pronunciation
- 7) Do you often focus on the intonation and stress pattern in my speaking classes? Give more details. (strongly disagree-disagree-agree-strongly agree)
- 8) Did you get enough training on the stress and intonation pattern in my pre-service training? (strongly disagree-disagree-agree-strongly agree)
- 9) I perceive and stress the importance of stress and intonation for pronunciation acquisition. (strongly disagree-disagree-agree-strongly agree)
- 10) I think intonation and stress importance should come last in the advanced levels. (strongly disagree-disagree-agree-strongly agree)
- 11) Focus is on the single word pronunciation. (strongly disagree-disagree-agree-strongly agree)
- 12) Stress and intonation should be tackled only when they affect the meaning. (strongly disagree-disagree-agree-strongly agree)
- 13) Teaching supra-segmental elements is my top priority. Explain. (strongly disagree-disagree-agree-strongly agree)

- 14) Learners get the intonation pattern as soon as they master the meaning of the whole sentence, as the last step in the learning process. (strongly disagree-disagree-agree-strongly agree)
- 15) I notice the influence of their mother tongue on the stress and intonation pattern. (strongly disagree-disagree-agree-strongly agree)
- 16) I tolerate the learners' mistakes under stress. (strongly disagree-disagree-agree-strongly agree)
- 17) The curriculum does not adequately address stress and intonation. (strongly disagree-disagree-agree-strongly agree)
- 18) Do you think the students receive enough pronunciation instruction in their present English courses? (strongly disagree-disagree-agree-strongly agree)
- 19) The quality of the L2 inputs will lead to better stress acquisition. (strongly disagree-disagree-agree-strongly agree)
- 20) I try to expose learners to native accents, focusing on intonation patterns, using technology. (strongly disagree-disagree-agree-strongly agree)
- 21) I recommend that learners conduct computerized conversation websites by listening, recording, and comparing. (strongly disagree-disagree-agree-strongly agree)
- 22) The quality of their previous background affects the acquisition of their stress pattern. (strongly disagree-disagree-agree-strongly agree)

Appendix 3. Teacher's interview

- 1) Do you think the level of awareness of the importance of teaching intonation is well-observed?
- 2) Do you think that the low awareness of the teachers to the point reflects negatively on the students' awareness?
- 3) How can we raise this level of awareness?
- 4) How do you rank the importance of teaching intonation on your priorities? why?
- 5) If no, why do you think this issue exists?
- 6) Do you think teachers see intonation as a subject to be focused on the higher levels?
- 7) Do you think the pre-service training does not focus on the topic properly?
- 8) Do you think the curriculum focus is one of the reasons?
- 9) Do you think the evaluation system that does not fully focus on the intonation is one of the reasons?
- 10) Did you notice any influence of the Arabic language on the pronunciation of the Arab learners?
- 11) If yes, on which area?
- 12) In your opinion, what is the most suitable method of teaching intonation?

- 13) Do you think multimedia can make a difference?
- 14) Did you notice any improvements in the students' performance after teaching intonation?
- 15) How do you estimate the importance of exposing learners to native speakers? Why?