

# Investigating the Typology and Frequency of Disfluencies in Students' Speech The Case of First-year Students at Freres Mentouri University, Constantine 1



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## Abstract

The present study aims at exploring the types and frequencies of disfluencies which occur in the speech of first-year students at the Department of English, Freres Mentouri University, Constantine 1. The sample consisted of 20 first-year students enrolled in the department during the academic year 2020-2021. The data were collected using a speaking task. The participants delivered short talks which were recorded using a smartphone. The findings revealed that different types of disfluencies occurred in students' speech samples at different rates, with prolongations being the most common and repairs being the least frequent. This study suggests that learners need, on the one hand, to be acquainted with disfluent speech features to be able to detect them. On the other hand, they have to be trained to clear out speech from these phenomena via instructional activities which may assist them grow into fluent speakers of the language.

## Keywords

speech disfluency ;  
frequency of disfluencies ;  
types of disfluencies ;  
hesitations;  
repairs.

## الكلمات المفتاحية

طلاقة الكلام ؛  
عدم طلاقة الكلام ؛  
تواتر الاختلالات ؛  
أنواع الاختلالات ؛  
تردد ؛  
إصلاح.

## تصنيف وتواتر الاختلالات في كلام الطلاب: حالة طلاب السنة الأولى في جامعة الاخوة منتوري قسنطينة 1 ملخص

تهدف الدراسة الحالية إلى التعرف على أنواع وتواتر الاختلالات التي تحدث في خطاب طلاب السنة الأولى في قسم اللغة الإنجليزية، جامعة الاخوة منتوري قسنطينة 1. تتكون العينة من 20 طالبًا في السنة الأولى انجليزية خلال العام الدراسي 2020-2021. تم جمع البيانات عن طريق محادثات قصيرة ألقاها المشاركون وتم تسجيلها باستخدام هاتف ذكي. كشفت النتائج أن أنواعًا مختلفة من الاختلالات حدثت في عينات كلام الطلاب وبمعدلات مختلفة. تشير هذه الدراسة إلى أن الطلاب يحتاجون إلى التعرف على اختلالات الكلام حتى يتمكنوا من اكتشافها والتخلص منها وذلك من خلال الأنشطة التعليمية التي قد تساعدهم على النمو ليصبحوا متحدثين للغة بطلاقة.

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## I- Introduction

Fluency consists of producing speech effortlessly and smoothly, with no breaks or hesitations, and this is the main target of most non-native learners. However, to become fluent is not an easy task. Speaking is a productive skill where many factors interplay, namely cognitive, linguistic, cultural, and kinaesthetic. To communicate one's ideas, the person has to make a series of decisions about a range of elements, including vocabulary, grammar, pronunciation, cultural and social norms, and even gesticulation. This series of choices has to happen in a very short space of time; which may impose pressure on the speaker and result in discrepancies in his/her speech. S/he, then, may prolong sounds, repeat words or parts of them, stop talking for a while, or self-correct. These problems are compounded if the speaker is a foreign learner of the language. This study attempts to answer the following question: what are the types and frequencies of disfluencies found in the speech of first-year students majoring in English at Freres Mentouri University, Constantine 1, Algeria? The paper opens with a literature review of the notions of fluency, disfluency, and its several types. Then, it considers closely the field work and its findings.

### I.1. Speech Production

Levelt (1989) proposed a detailed depiction of what a speaking performance consists of by stating the following. At the origin of any speech act, there is the speaker's intention to convey a message to an interlocutor. This message goes through different stages before it is uttered. First, in the *Conceptualization* stage, the speaker has to plan what to say and choose the content to communicate in the light of the intended objective. Next, he has to decide how to say it; that is, to place the information in a suitable syntactic structure and give it the right phonetic code, during the *Formulation* phase. These two operations result in 'an internal speech' that is not yet verbalized. Then comes the *articulation* juncture where the concrete carrying out of the phonetic plan is completed through the respiratory system, resulting in the utterance as heard by the listener; or, simply put, the speaker says what he has planned to say (Levelt, 1989).

### I. 2. Speech Fluency Defined

Lickley (2015) asserted that fluency has no well-established definition that is universally agreed upon; different researchers defined it in different ways, depending on their field of study and interest in the concept (linguistics, psycholinguistic, first or second language context, therapy...etc). For instance, according to Vásquez, Hansen and Smith (2010), to be a fluent speaker means to be able to talk using the language in a comprehensible way across a variety of situations ranging from daily informal conversations to formal academic speeches. Allwood (2017) added that the speaker should generate clear pronunciation, audible utterance, and proper gesticulation.

Segalowitz (2010) pointed out that fluency in an L2 can be cognitive, uttered, or perceptual: The first is related to the speaker, the second to the speech delivered, and the third to the listener. Cognitive fluency takes place in the mind of the person before he utters his words and sentences; it entails the efficient management of all the mental operations needed to plan the speech such as to look for appropriate vocabulary, syntax, and pronunciation so that the stretch of speech is delivered in the best manner and time viable (Segalowitz, 2010). Utterance fluency relates to the features of the actually articulated or produced speech, which should include the least number possible of errors and disruptions. Examples of these interruptions are hesitations, pauses, and self-corrections (Segalowitz, 2010). Perceptual fluency is pertinent to the listeners' evaluation of the speech they heard as being fluent or not. This appraisal is founded on the fluidity of utterance articulation which, in turn, hints the ease of the mental planning phase. In other words, perceptual fluency results from utterance fluency which derives from cognitive fluency (Segalowitz, 2010). Lickley (2015) provided a description very similar to Segalowitz's, while adopting new labels: planning fluency (the even flow of speech from one planning level to the other), surface fluency (the smooth running of uttered words and sentences), and perceived fluency (the listener's feeling that what is said is fluid). These labels are, in that order, comparable to Segalowitz's cognitive, utterance, and perceptual fluency.

While Allwood (2017, p 1) pinpointed that fluency in EFL stands merely for the speaker's "ability to find words and use grammar easily", Lennon (1990) assigned it two meanings, one *broad* and the other *narrow*. The former refers to the mastery of the skills necessary to speak in the target language effortlessly; i.e., command of the overall speaking aptitude indicators such as accuracy, vocabulary, idiomaticity, pronunciation...etc. The latter represents fluency as being one particular constituent, among others, of oral proficiency, typically found in oral achievement tests. In narrow fluency, Lennon added, the focal point is speed; fluent speakers of EFL are those who speak as rapid as natives without hesitations, pauses, repetitions, or repairs. Both dimensions are interconnected, yet fluency in its broad sense is closely linked to linguistic competence while in its narrow sense to performance or speech delivery (Lennon, 1990).

### I. 3. Speech Disfluency Defined

According to Allwood (2017), there exists no common definition for the term fluency, nor does it for disfluency because some aspects are common between the two concepts. He explicated that what is considered a

disfluency (hesitating, pausing, and repairing) in a situation becomes necessary in another situation for successful communication to take place; in fact, they turn into strategies of 'communication management' rather than markers of disfluency. Nonetheless, researchers have provided some descriptions of disfluency.

A communicative disfluency is viewed as a disturbance that breaks off the flow of communication without really adding more meaning to the original statement; it can be a silent pause, an interjection (um, uh) to fill a pause, or a repetition of a word or more (Fox Tree, 1995). Researchers gave varying estimates to the occurrences of disfluencies in normal speech. Fox Tree (1995) calculated these figures and concluded that approximately 6 errors are made in every 100 articulated words; that is to say, about 6% of what people say is disfluent, but this is considered *typical* disfluency; exceeding this rate is *atypical* disfluency. Lickley (2015) clarified that these occurrences dependent on the length and complexity of the output, and divided them into formal and functional. On the one hand, formal disfluency relates to forms or words and grammar patterns where disfluency occurs. On the other hand, functional disfluency links to functions or what goes wrong in the various stages of planning and producing a stretch of speech (Likely, 2015). In L2 learning, disfluent speakers cannot access vocabulary, construct grammatical sentences, articulate smooth utterances and avoid any interference of L1 at the level of semantics, syntax, lexis and pronunciation (Segalowitz, 2010).

#### **I. 4. Types of Speech Disfluencies**

Disfluency in speech includes many aspects: pauses, repetitions, prolongations, and revisions or repairs. Each type is named in a way to mirror the modification brought in the string of speech where it takes place (Shriberg, 2001).

##### **I. 4. 1. Hesitations**

Hesitations refer to the time where the speech is interrupted or stopped (Lickley, 2017). He suggested that a hesitation indicates that a difficulty is taking place at the level of planning the output, articulating it, or selecting its linguistic features. When a speaker hesitates, he may either:

- stop completely for a brief period,
- fill this silence with a filler,
- lengthen a sound,
- repeat what he has just said before,
- state clearly that he is hesitating, or
- use a combination of any of these strategies (Lickley, 2017).

In general, hesitating signals the speaker's uncertainty about "what to say and how to say it" (Lickley, 2015, pp. 460-1).

##### **I. 4. 1. 1. Silent pauses**

To make a silent pause means to stop from saying anything for some time (Lickley, 2015). Silence or pausing is part of natural speech, but it becomes a sign of hesitation because of its duration. Lickley's review of research on the length of pauses found out that different studies referred to different spans of time ranging from 50 milliseconds (0.05 second), to 250 milliseconds (0.25 second) (Martin, 1970; Goldman-Eisler, 1958a, 1958b, 1961 cited in Lickley, 2015, pp. 456-7). To exemplify a silent pause, I may say: "I have *silence* to leave now".

##### **I. 4. 1. 2. Filled pauses**

Filled pauses are not vocabulary items but just sounds or interjections speakers use to fill a pause (Schachter, Christenfeld, Ravina, and Bilous, 1991), and where the vowels are much longer than the vowels in normal speech, like in uh, er and um (Shriberg, 2001). Some fillers are words and expressions such as 'well', 'I mean', and 'you know', even more, laughter, breath, and sigh are considered signs of disfluency according to Moore, Tian, and Lai (2014). A sample of a filled pause may be "I am, *uh*, coming." Another is "I, *you know*, didn't mean it." Their occurrence depends on several factors, namely the nature of the topic being dealt with, anxiety, age, but more importantly the number of options among which the speaker has to choose what to say next because "the greater the number of options at a choice point, the greater the likelihood of pauses." (Schachter, et al., 1991, p. 362).

##### **I. 4. 1. 3. Prolongations**

Another common communicative disfluency is prolongation. It concerns the lengthening of a sound, for when it is stretched excessively, it becomes an indication of nonfluency (Johnson, et al., 1959). In the sentence below, the sound /s/ is prolonged

"I like reading detective *ssstories*."

A prolongation can be used as a way of pausing, and it may differ in length depending on the environment where it occurs; however, researchers agreed that a prolongation lasts for 250 milliseconds, at least (Lickley, 2017).

#### I. 4. 1. 4. Repetitions

It is common that speakers in normal speech repeat what they said, be it a sound, a word, or a longer string of speech (Lickley, 2017). A repetition becomes a nonfluency only in case the speaker makes no correction or alteration of what has been said before, Johnson et al. (1959) affirmed. The following examples show where repetition can take place: sounds (*s/s/syllable*), syllables (*sy/syllable*), word parts (*sylla/syllable*), whole words (*one/one syllable*) or phrases (*there are/there are two syllables*).

#### I. 4. 2. Repairs

One frequently used form of disfluency is repairing, also named 'revision', 'self-correction' or 'self-repair'. Repairs are described by Lickley (2015) as being the 'complex' form of speech disruptions. A repair signifies that the speaker is aware that a mistake of some kind has occurred and thus he has to stop and fix it on the spot (Lickley, 2015). Levelt (1984) identified three stages in a repair: detection of a nonfluency in the original utterance; interruption of the utterance via silent or filled pausing, and correction of the error, or the repair itself.

e.g. I bought a new one to her, uh ... to him, yesterday.  
nonfluency                      interruption                      repair

A repair can be manipulated by means of substitution, insertion, or deletion (Williams, 1984; Lickley, 2015, 2017). Therefore to repair an error, the speaker can recourse to one of the following strategies:

- a. to reject a portion of what he has said and replace it by an alternative one,
- b. to repeat a segment of his speech and insert (a) new word(s) in it,
- c. to stop and cancel a word or more altogether, halfway through (Lickley, 2015).

Some instances of using the repairing tactics above are the following, respectively:

- a. "She had/ *has* left"
- b. "She has left/she has *just* left"
- c. "She has/ *I don't know; I haven't seen her*"

#### I. 4. 3. Types of Repairs

Levelt (1983) studied repairs thoroughly and classified them into three categories. These are the different, appropriateness, and error repairs. They are outlined in the subsequent sections.

##### I. 4. 3. 1. The Different Repairs

Different repairs are not very common, and they occur when the speaker, right in the middle of his speech, decides to change the order of ideas and delay one in favour of another one (Levelt, 1984), like in the example below - Dispose of it properly ... *Close it safely, and then* dispose of it properly. (Repair is made because, in the usual order of things and for precautionary and preventive measures, closing the garbage bags comes first, before disposing of them).

##### I. 4. 3. 2. Appropriateness Repairs

In the midst of an utterance, the speaker realises that there is a better way to say things for the sake of clarity and appropriateness; therefore, in an attempt to eliminate any ambiguity, s/he interrupts the current statement and fixes the issue (Levelt, 1983) as in the following example:

- In response to the question / in response to *Professor Brown's* question...

(Repair is made so that no confusion over which/whose question is being answered arises, at the end of a Viva Voce, for instance).

Such correction generally consists of a clearer, more precise, and more coherent expression of the message. Appropriateness repairs, Levelt (1983) affirmed, are ways to monitor lack of clarity and coherence and not actual errors. Considering the example above, the expression "In response to the question" is not erroneous in itself, yet it has been repaired because it may lead to perplexity in the listeners; "In response to Professor Brown's question" is more apposite as it removes the perplexity.

##### I. 4. 3. 3. Error Repairs

A further type of repairs Levelt (1983) distinguished is the error repair. Sometimes, an utterance needs no different or appropriateness repairs since the ideas are in the right order, and the words are coherent with the context, yet the speaker may recourse to self-correction for other reasons. Indeed, errors of different types may occur, for instance, lexical inaccuracies are not uncommon, as in

- Go right, sorry, *left*.

Syntactic errors are also possible; the grammatical construction of the statement includes an element that is not correct. To exemplify

- She have to ... she *has* to

Likewise, errors at the level of phonetics are likely to take place. When a speaker realises that he is mispronouncing a word, he tries to say it again, correcting the phonological issue like in - He's a close (/kləʊz/) friend of mine eh... *close* (/kləʊs/) friend of mine.

## **II– Methods and Materials**

In this research, the mixed method is used. Qualitative data are used mainly to describe the nature of disfluencies found in the participants' speech samples, and quantitative data to measure their frequencies. At the onset of this study, the following research questions were asked

1. What are the types of speech disfluency made by first-year students majoring in English at Freres Mentouri University, Constantine 1?
2. What are the frequencies of disfluency types made by first-year students majoring in English at Freres Mentouri University, Constantine 1?

To answer these questions, a field work is carried out.

### **II. 1. The sample**

Twenty first-year students majoring in English at Freres Mentouri University, Constantine 1, participated in the present study. They were 3 males and 17 females randomly selected from the larger population of first-year students. They were aged between 18 and 20 years old and have more or less the same educational background, where they learned English for at least seven years. First-year students were chosen because it is more sensible and apposite to diagnose the speaking disturbances and become aware of them at an early stage of the language learning process in order to take necessary measures by syllabus designers, teachers, and even learners to overcome them.

### **II. 2. Procedures**

Data collection took place during four ordinary Oral Expression lessons, by means of a speaking task. The latter consists of two parts: (a) listening comprehension questions and (b) oral production. First, students listen to an audio track about a given topic, then they answer a number of comprehension questions. After discussion of the answers, students move to the oral production part where they had to deliver a short talk (one minute or more), in response to some more personalised questions devised by the teacher/researcher, inspired by the topic of the audio track. Personalization of the questions is opted for to enable learners to express their thoughts and feelings freely and in the language they know. The students' talks were recorded using the researcher's mobile. Later on, less than one-minute talks were discarded, and only the first minute from longer samples is transcribed for analysis. It is noteworthy that different students were selected from each lesson; that is to say, no student has participated twice in the study.

The lessons are part of the Oral Expression official syllabus. Following is a more detailed account of the topics dealt with and the personalised questions that students responded to orally. Focus here is on the oral production section of the task which is of interest for us as it encompasses the speaking eliciting questions (the section about listening comprehension is overlooked, for it falls beyond the scope of the current study).

#### **Lesson one**

Topic: "Cell Phone Etiquette"

- Questions:
- a. If you were Jessica's mother, would you get her a new camera phone?
  - b. If yes, why would you do?
  - c. If no, why wouldn't you do?

#### **Lesson two**

Topic: "Body Language"

- Questions:
- a. In your opinion, what is the importance of body language in communication?
  - b. What are some of the gestures you usually use?
  - c. What does each gesture mean?

#### **Lesson three**

Topic: "Offbeat Jobs".

- Questions:
- a. In your opinion, which of the two jobs is more offbeat, ice cream tasting or professional shopping? Why do you think so?
  - b. Which of the two jobs you think you can do? Why?
  - c. Which of the two jobs you think you can't do? Why not?
  - d. Do you think it is easy for you to get started in any other offbeat job? Explain.

#### **Lesson four**

Topic: "Traditional vs. Distance Learning"

- Questions:
- Which method do you prefer traditional or distance learning?
  - What are some advantages of your preferred way of learning over the other one?
  - What are some of its disadvantages?

Participants' audio tracks were then transcribed manually by the researcher who listened to each talk the number of times necessary for her to write down meticulously all that was said and to take notes, faithfully, of all speech disfluencies used by each student (appendix). Pronunciation and grammar mistakes were not taken into account because they fall outside the focus of this research. Moreover, the researcher tried to take track of some temporal features of the breakdowns in the fluidity of the students' speeches, specifically to determine the total duration of the disfluency periods and the part of the minute during which the highest number of disfluencies took place. Hence, the researcher used a music player application timer to take notes of the time each student interrupted himself/herself, then totaled the length of the disfluency period for all participants and computed its mean.

### III -Results and discussion

This study investigates the nature and frequency of disfluencies in students' speech. When transcribing the students' samples, the researcher highlighted in yellow the disfluencies of filled pauses, prolongations, repetitions, and repairs, and used three suspension points preceded and followed by a space ( ... ) to indicate silent pauses (appendix). For global presentation and analysis of the data, Table 1 was compiled.

	Silent Pauses	Filled Pauses	Prolongations	Repetitions	Repairs	Total	Mean
Number	119	49	133	31	27	359	17.95
Percentage	33.14	13.64	37.04	8.63	7.52	100	

Table 1. Descriptive Statistics of Disfluencies

As shown in Table 1, subjects produced a large amount of disfluencies with a total of 359 and a mean of 17.95 breaks per minute. This means that a substantial portion of the time during which students were speaking was filled with disruptions. Hesitation features were the most frequent type with a total percentage of 92.45%, and repairs were the least common; they represented a smaller, yet significant, percentage (7.52%) of the overall number of nonfluencies.

Figure 1 displays that the speech discrepancies made by the participants were of varied types. Prolongations ranked first (with a percentage of 37.04%) followed by silent pauses (33.14%) then filled pauses (13.64%). Less frequent were repetitions (8.63%) and lowest of all were repairs (7.52%).

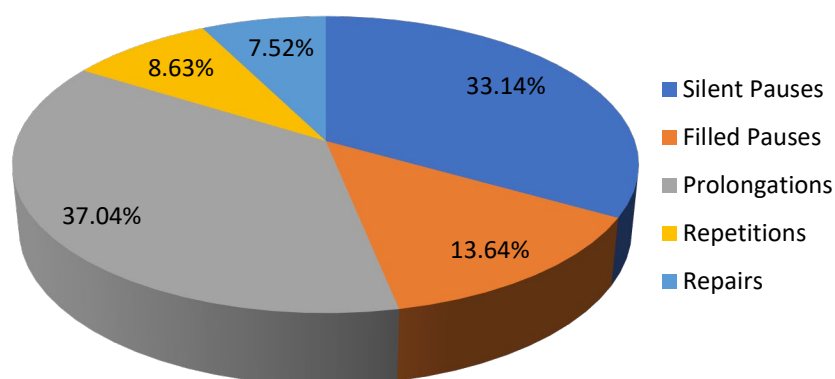


Figure 1. Percentage Distribution of Disfluency Types

Table 2 shows the total number of disfluencies for each student. In discussion of the results in this table, we need to recall that Lickley (2017), after thorough reviewing of the literature, maintained that six nonfluencies per one hundred words is considered normal disfluency; that is, native speakers may usually reach 6 nonfluencies every 100 uttered words. By analogy, the least number of nonfluencies (11) made by subjects in this study is above this rate, and

the highest number (27) is far beyond it. In terms of word counts, made here by Microsoft Word, the total number of words produced by subjects was 2419 words and thus an average length speech included about 121 words. This means that seven to eight breakdowns would be tolerable following Lickley's proclamation (2017); however, the mean number of disfluencies of the sample was 17.95, which signifies that the subjects far exceeded normal disfluency when speaking.

Student	DISFLUENCY TYPE					Total
	Silent Pauses	Filled Pauses	Prolongations	Repetitions	Repairs	
1	8	4	5	1	0	18
2	7	1	7	1	1	17
3	8	4	7	0	2	21
4	5	2	7	1	1	16
5	5	2	4	2	3	16
6	9	3	3	1	2	18
7	4	0	7	2	1	14
8	3	4	7	3	1	18
9	3	2	10	0	0	15
10	6	3	8	2	0	19
11	5	3	5	2	2	17
12	10	4	8	1	1	24
13	8	5	10	2	2	27
14	5	1	6	2	3	17
15	8	0	7	1	3	19
16	4	1	9	1	1	16
17	5	3	4	4	1	17
18	5	1	10	1	0	17
19	4	1	6	0	0	11
20	7	5	3	4	3	22
Total	119	49	133	31	27	359

Table 2. Distribution of Disfluencies per Participant

In terms of the time spent in speech discontinuity, the length of the disfluency period for all participants was totaled (=337 seconds), then its mean was computed (=16.85 seconds). The findings were as follows: disfluencies filled more than a quarter of the minute during which subjects were speaking; more precisely, 28.08% of the students' talk was non-fluent. Most breakdowns (64%) took place between seconds 16 and 45; some of them (20%) between 46"-60", and fewer (16%) between 0"-15". Therefore, students experienced more difficulties in the middle of their speeches as for how to maintain them going on.

### III. 1. Prolongations

Prolongations were identified in all subjects' talks. They were the first most recurrent nonfluency marker with a total number of 133 and a proportion of 37.04%. In fact, in one-minute speech, 60% of the subjects made seven prolongations or more (7 to 10), and 40% produced six prolongations or less (6 to 3). The maximum number of lengthened words was ten (10), and it was observed in three subjects while the least number was three prolongations (3), noted in two students. These results become more lucid in Figure 2 below.

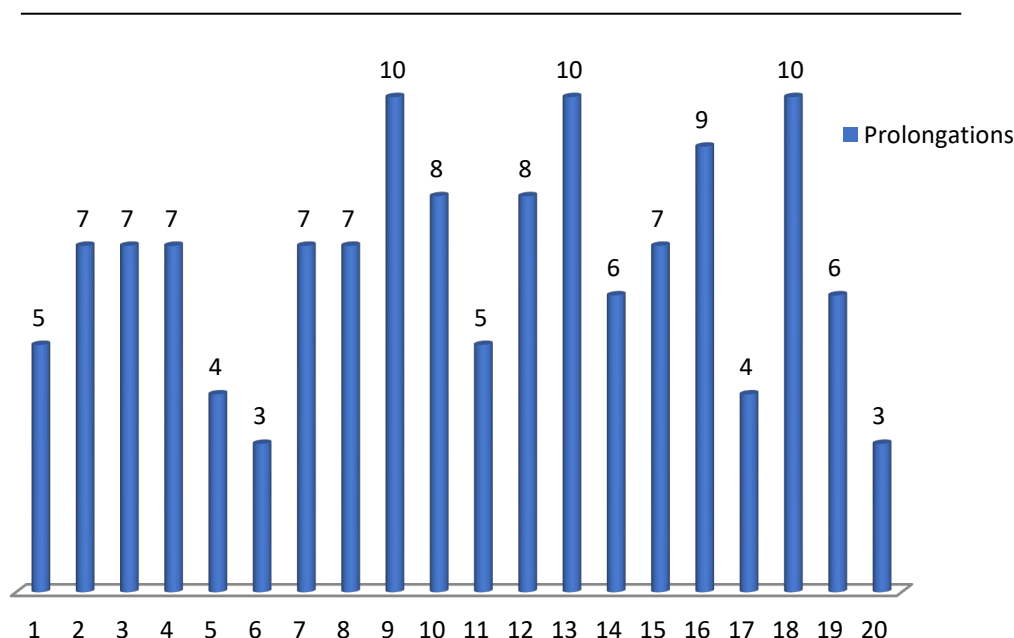


Figure 2. Frequency of Prolongations

Prolongations were detected in different parts of speech, content and function words:

- Nouns: teacherr, issuuues, thinnngs, frieeends
- Verbs: occupyyy, thinnnk, dependsss, prefffer
- Adjectives: traditionall, impooortant, gooddd, interestinnng
- Adverbs: aalways, usuallly
- Articles: theee
- Prepositions: onnn, inn, off
- Pronouns: mee, youuu, theyyy, aaall
- Conjunctions: aaand, whennn, whiile, orrr

As per Table 3, function words (articles, conjunctions, prepositions, pronouns) were lengthened in 60.90% of the cases whereas content words (nouns, verbs, adjectives, and adverbs) represented 39.09% of the prolongation instances. Monosyllabic words were found to be dragged out repeatedly; for example, the conjunction ‘and’ was prolonged 11 times, the article ‘the’ seven times, the auxiliary ‘is’ six times, and the preposition ‘of’ five times. This was not the same for multisyllabic words. Apart from the words ‘traditional’ and ‘depends’, which were prolonged two times each, all other multisyllabic words were prolonged only once.

	Word type		Position		
	content	function	initial	medial	final
Number	52	81	10	41	82
Percentage %	39.09	60.90	7.51	30.82	61.65

Table 3. Where Prolongations Occurred

Furthermore, the sounds that were extended occupied different positions within the word: they came at its beginning, middle, or end. Only 7.51% of the prolongations occurred in initial positions, 30.82% in medial positions, and 61.65% in final positions. These findings are in line with the literature. Lickley (2015) asserted that, in English, function words are likely to be stretched out by speakers, and this prolongation is generally word-final.

With regard this specific disfluency phenomenon, some observations may be made. For instance, different sounds in the same word were prolonged by different participants (e.g. aaand/annnd/anddd, prefeeer/prefffer, heeer/herrr), or in the same word, two sounds were prolonged (e.g. Weeeelll, couuurssse). Another remark is that the same word/sound is lengthened by the same participant (P henceforth) recurrently (‘iss’ was produced four times by P11, ‘frieends’ three times by P2, and ‘dependsss’ two times by P1). A further observation relates to the position of the prolonged sound inside the word. The same participant constantly extended final sounds (e.g. P6, P8, P9, P13, and P14), medial sounds (e.g. P2, P18, and P19), or initial sounds (e.g. P15). In a way, they became their typical nonfluencies.



### III. 2. Pausing

According to Schachter, et al., (1991), fillers such as ‘uh’, ‘ar’ and ‘urn’ are indications of a search time during which the speaker is trying to find the next word or idea. Silent pauses were the second most frequent nonfluency in this study (119 times or 33.14%) , and filled pauses ranked third (49 times or 13.64%). As Figure 3 demonstrates, 25% of the subjects experienced silent breaks three or four times over one minute, the remaining 75% kept silent from five to ten times per minute. The shortest unfilled pause lasted half a second and the longest one three seconds. In the literature, the time of a silent pause ranges between 0.05 and 0.25 second (Lickley, 2015). In comparison with these norms, silence periods in this study were long, which may indicate that students needed extended time to search for subsequent words to continue speaking.

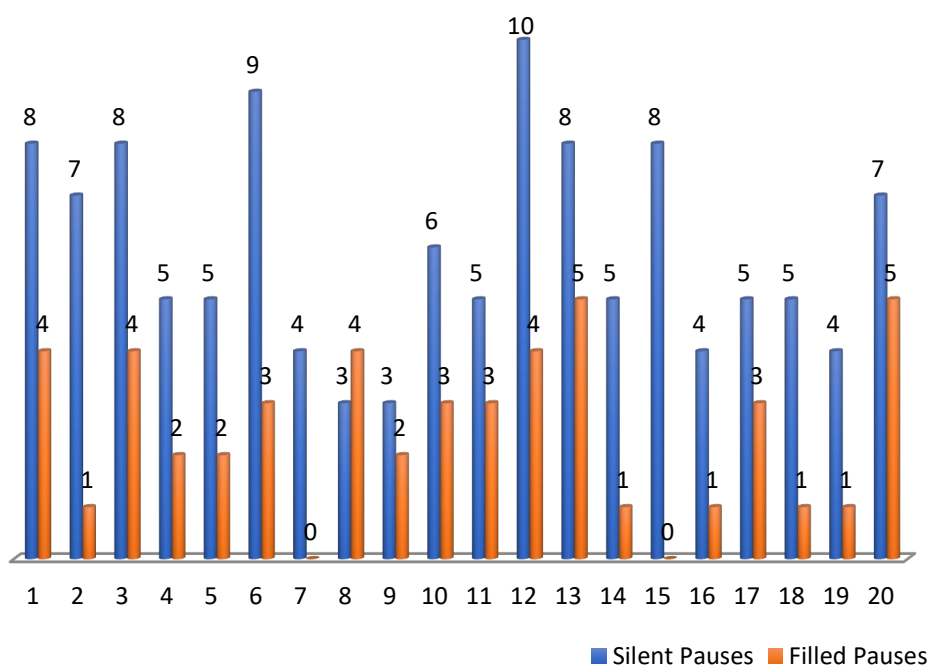


Figure 3. Frequency of Silent and Filled Pauses

On the other hand, filled pauses were much fewer than unfilled ones, yet significant with a rate of 13.64% of the sum of nonfluencies made by the subjects. Interjections were the fillers most noticed among the subjects. At the exception of two subjects, the rest filled silence periods with sounds such as ‘eh, uh, and um’, and very few used both interjections and editing words like ‘actually, well, yes, yeah, and ok’. Fillers occurred in different places in the speech.

At or near the beginning of an utterance:

- *Um* to be honest, if I was Jessica's mother...
- *Eh* finally, camera cell phones are always handy...
- *Well*, I think the ice taster is more offbeat...
- And *actually* working in phone is so tiring...

In the middle of an utterance:

- I cannot buy things *eh* to people...
- I like to teach pupil *eh* a lot...
- In my opinion *eh* the body language is something important *eh* and we have to use it *eh* to express our emotions...

Around silent pauses: Interjections often came after a silent pause but rarely before it:

- Body language *um* ... exist in both animals and humans too....
- For example, if she is out, and *eh* ... she find someone he may steal it from her...
- I will agree at the idea she gave not to her ... *uh* because she is still a teenager
- ... *Eh* for distance learning, it's also good...

Around other disfluencies: Fillers also appeared next to other breakdowns, as in

- there is always some/something *eh* pri/pri/private (repetition)
- the advantages of classic classic *eh* classic classes (repair)
- becauuuse *uh* all our life [...] is connected to our cell phone (prolongation)

On the whole, 90% of the participants used both forms of pausing, and 10% used silence only. 65% of the students showed hesitation recurrently (7-14 times in one minute), and 35% stopped less frequently (6-4 times). It was noticed that pauses, be they silent or filled, were very common among the subjects, yet silence was much more

prevalent. Pausing implies that the speaker is in the process of looking for or choosing an appropriate continuation for his/her speech (Schachter, et al., 1991). In this case, it can be deduced that the students had short of knowledge of vocabulary, grammar, or phonetics, and they were trying to “buy time” till they find a proper expression of their thoughts (Lickley, 2015, p. 461).

### III. 3. Repetitions

In comparison with pauses and prolongations, repetitions were less common. Non-hesitative repetitions are not taken into consideration; that is, repetitions made for the sake of emphasis are excluded. In fact, this type occurred only once in “That's *more, more, and more* unusual...”. Hesitative repetitions, on the other hand, happened at a rate of 8.63%. Apart from three subjects, all the others resorted to repetition to show that they were hesitating about how to formulate the next part in their speech. There were repetitions of different types, namely sounds, word fractions, entire words, and phrases. Figure 4 gives a clear picture of these types of repetition in percentages. In fact, the students tended to repeat whole words often (48.38%); they also reproduced phrases but to a lower degree (29.03%). However, they repeated syllables, or word parts, only occasionally (16.12%), and they seldom say the same sound again (9.67%).

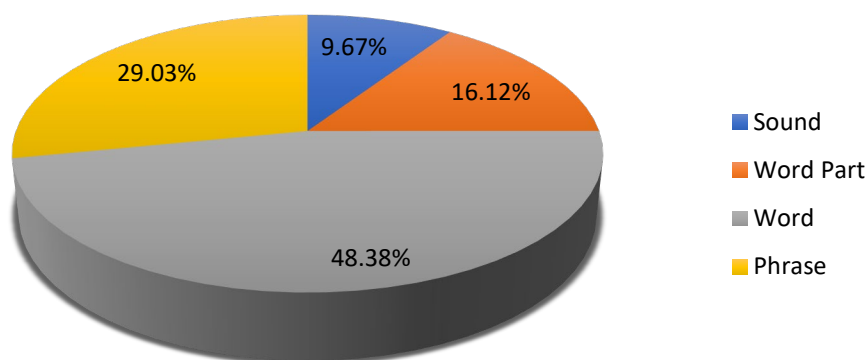


Figure 4. Where Repetitions Occurred

Following are examples of each category.

Repetition of sounds:

- we could ask *q/questions* directly
- *t/to* maintain and gives a really flexible schedule

Repetition of syllables (parts of words):

- there is always *some/something pri/pri/private*
- if I am *Jessi/Jessica's* mother, I would have bought her a new camera's phone
- and give them *infor/information*

Repetition of words:

- I think girl *from/from* her voice
- I'm not that *good/good* with money
- *we/we* miss *the/the* online class
- *to /to /to* the message well

Repetition of phrases:

- *I can/I can* read my lessons more
- *I will call/I will call* her
- I believe *that I'm/that I'm* not gonna be successful
- *I can/I can* walk for long distances

Repetitions were found to occur in combination with other sorts of disfluency. As clarified in the subsequent instances, they appeared with

- silent pauses: *you can/ ... you can* decide when you want to attend your class
- filled pauses: there is [...] *some/something eh pri/pri/private*
- prolongations in one of the repeated items: I don't want her *tooo/to* have
- other repetitions in the same utterance: *we/we* miss *theee/the* online class

This fact is not unusual, confirmed Lickley (2015, p. 460): “a hesitant repetition of the same words would be accompanied by other hesitation phenomena”, and he specially referred to silent pauses and/or prolongations.

### III. 4. Repairs

Repairs are also called self-repairs, revisions, corrections or self-corrections. A repair occurs when a speaker realises that he made an error while speaking, and he promptly remedies it (Lickley, 2017). Such features of nonfluency were of the smallest amount in this study with a percentage of 7.56%. As a matter of fact, 11 out of 27 repairs (40.74%) followed Levelt's model (1983). They included three parts: the original utterance with a breakdown in it, the editing or hesitation phase, and the repair itself (e.g. *Hello in this / ... Hello I am going to talk about the offbeat jobs*). However, more others (16 repairs or 48.3%) did not, and the repair followed swiftly the error (e.g. [T]hey know *who/what* to select ...), subscribing, thus, to Shriberg's pattern (2001) of coarticulation: error/repair.

Subjects' self-corrections were made through different strategies such as deletion, substitution, and insertion, and they varied in type between error, appropriateness, and different repairs.

Error repairs:

- Body language *is my opi/ ... in my opinion* help [...] to understand the others
- [T]eenagers *are/ ... may* have bad behaviours about using cell phones
- [T]he job I think that *I cannot is/ ... I cannot do is* the work in hospitals

Appropriateness repairs:

- I will buy her *a camera phone / ... a new camera phone*
- [S]he *use/ ... only used* them for good thing
- [I]*t's a way/ ... I think this mobile phone is going to be a way* to communicate easily

Different repairs:

- *It's ver / ... it's for everyone...*
- I don't want her [...] to have the [in]feriority complex *or that / ... Secondly*, camera cell phones are easier to use
- *Hello in this / ... Hello I am going to talk about the offbeat jobs*

Table 4 demonstrates that error and appropriateness types of repairs occurred with a similar frequency of 40.74% each. In these cases, subjects detected a given problem in what they were saying and tried to fix it. This can be either a manifest error in grammar, syntax or phonetics which must be corrected (error repair). Or, it can be an idea formulation which needs to be improved even if it is not fully wrong (appropriateness repair). The examples abovementioned are cases in point. The lowest rate of repairs (18.51%) was that of different repair, and this is consistent with Levelt's observation (1983) that this is the least occurring self-correction, and it relates to organizing ideas when speaking.

	Repair types		Different repair
	Error repair	Appropriateness repair	
<b>Number</b>	11	11	5
<b>Percentage</b>	40.74	40.74	18.51

Table 4. Frequency of Repair Types

Although repairs are a mark of disfluency, they are said to show speakers' competence of "catching oneself in time" (Williams, 1984, p. 73) via either adapting the strength of an utterance to its context or altering its focus. Therefore, it can be deduced that their infrequent use by the students, in comparison to the sum of other disfluencies, may signal their failure to quickly detect errors in what they say while they are saying it.

In discussion of the findings of the present study many conclusions can be drawn. Following the categorization of Lickley (2015), the two major types of speech breakdowns, simple (prolongations, silent pauses, filled pauses, repetitions) and complex (repairs), were identified in the data. 60% of the speech samples included all of these phenomena; 30% of them comprise four types, and 10% contain three disfluency forms. Hence, each speech included many features of nonfluency, to varying degrees though (11-27 errors). Prolongations ranked first and repairs last, with silent pauses, filled pauses, repetitions in between, in that order. These interruptions occurred mainly in the middle of the minute of speech and sporadically in its beginning or ending.

Prolongations were overused by students, and for many among them lengthening sounds had become a trait of their way of speaking, for they prolonged up to ten words in one-minute speech. Depending on each student, prolongations were compiled at the beginning, in the middle, or at the end, or scattered throughout the speech. Both consonants (especially /n, s, r, t, f, l/) and vowels (all except /i/) were lengthened. Several students tend to drag out the same sound throughout their speech; others extend the same word, and the rest are unpredictable. Many prolongations in the same speaking act may look like stuttering which makes the listener spend more effort and time in decoding the message than in case the speaker was not hesitant. Language instruction, then, should look for solutions to this problem.

Pauses were also omnipresent, yet silent much more than filled. A silence period ranged from less than a second to three seconds which, in fact, is a long period. Such blockades affect the conveyance of the message negatively, for they impose on the listener unnecessary waiting times. Moreover, they emerged at different points. They

popped up at the very or near the beginning, in the centre, or at the end of the speech in general, or of an utterance in particular. More than often, silence is paired with an interjection, but it is also likely to be found with the other features of nonfluency. Recurrence of pauses harms the run of ideas and thus breaks understanding in the interlocutor, which suggests that handling them in the classroom by suitable means is necessary.

Repetitions form a further nonfluency used by the students, less frequently than prolongations and pauses though. They repeated parts of words, entire words, or phrases. Few of these are even reiterated thrice in the same speech. Repeats concerned generally short grammatical words, particularly the conjunction 'and' and the article 'the', yet lexical words of different types were also reproduced. Repetition, when not for emphasis, gives the auditor reason to doubt that the speaker is uncertain about what he is saying and detracts him from grasping the point the speaker is trying to make. This implies the necessity for training learners to avoid repetitions when speaking.

Self-correcting was of the smallest amount in the data. This complex nonfluency was spotted in three quarters of the talks, from one to four times per each. In these cases, students detected their mistakes and repaired them. They did this in three ways; they either gave a totally wrong word its correct form (error repair), or opted for a more appropriate word to better clarify the intended meaning (appropriateness repair), or decided to substitute one idea by another for the sake of an optimal elucidation of the message (different information repair). Not all revisions in this study adhered to Levelt's model (1983, 1984) which consists of error -- hesitation -- repair. Many of them included no hesitation or editing phase, and the repair followed directly the error without any delay; having, rather, Shriberg's pattern (2001) of coarticulation: error/repair.

An observation that may be significant concerns the emergence of combined nonfluencies. In some instances, a stretch of two or more disfluency markers is produced at once. Following are some examples:

Two disfluencies:

- [O]nline classes can be very easy ... *t/ to* maintain (silent pause + repetition)
- *Aaand yeah* some of these disadvantages is that it's not as engaging as in-person classes (prolongation + filled pause)

More than two disfluencies:

- *I thinnk I ... can do no/ I can do both* (prolongation + silent pause + repair)
- *I cannot buy things eh to people ... believing that there is aalways some/something eh pri/pri/private* (prolongation + repetition + filled pause + repetition)

The combination of two or more disfluencies makes the speech very interrupted which may create confusion and boredom in the hearer who finds it hard to follow the thread of ideas in the speaker's utterances. This signals the students' dire need for instruction in the area of speech disfluency.

In fact, stress here is put on the negative effects of disfluency in order to draw attention to the importance of raising teachers' and students' awareness to them; knowledge of these phenomena will help both of them. It can lead to the adoption of appropriate measures and actions in the teaching and learning of the speaking skill, especially the implementation of fluency enhancing methods in the speaking class such as those proposed by Nation (1991): the ask and answer technique, the 4/3/2 technique, and the best recording. In addition, there are the newest computer and mobile assisted educational tools such as YouTube channels, electronic dictionaries/books, and applications of all sorts. Joseph and Uther (2009), for instance, highlighted the importance of the voice modality offered by smartphones. They maintained that this feature is of great help for improving learners' speaking fluency, especially if paired with the pronunciation guides, pronunciation corrections, pronunciation modelling, and conversational practice.

## IV -Conclusion

The objective of the present study is to determine the nature and frequency of the disfluencies made by first-year students majoring at English in Freres Mentouri University, Constantine 1. The findings showed that students' samples were filled with interruptions of all sorts, and that different breaks happened at different rates. Students leaned mainly toward prolonging sounds, pausing or interjecting. They also resorted to repetitions and repairs, but with a smaller amount. These results would be helpful if used sensibly. On the one hand, teachers can raise students' awareness to such flaws and design teaching materials to handle them. On the other hand, learners gain knowledge of these phenomena, become able to spot them in their speech, and try to fix them on a personalised basis. For many learners, learning a language equates speaking it in a native-like manner, with no excessive breaks. This seems to be a daunting task, but not impossible if necessary measures are to be taken.

## - Appendix

### Appendix: Students' Speech Samples Transcribed

#### Participant 01

Um to be honesttt, if I was Jessica's mother, ... it dependsss ... uh for example first of all if Jessica is middle school student or even a high school student, I would never give her a phone or even a camera phone becauuuse she does not even know how to use it orrr she won't use it at the correct way. It isn't/ uh ... it isn't easy to use the phone; it causes many problems for teenagers ... For example, if she is out, and eh ... she find someone ... he may steal it from her ... and too as they say they may take embarrassing pictures of people and sharing them on the Internet. That's really horrible ... They may use ittt (the end of one minute)

#### Participant 02

... eh if I am jessi/jessica's mother, I would have bought her a new camera's phone because ... she needs him to take pictures of her fffavorite thinnngs. And when she hangs out with her frieeends, she frieeends the pictures as memory ... Also, whiiile student she needs him to take pictures of heeer lessons and share some musical pictures with her frieeends at school ... I know phone camera ... can be ... used for bad things, but ... me as mother I know my daughter very well, and I am confident that she use/ only used them for good thing.

#### Participant 03

Ok, first of all ... hhhaving a phone, cell phone, a camera phone in generally is very necessary for people and specially nowadays becauuuse uh all our life, and all our social life, and all our work, annnd studies, and everything is connected to our cell phone and to the internet and stuff ... So, I thinnnk if I were Jessica's mother, I will agree at the idea she gave not to her ... uh because she is still a teenager, and teenagers arrre/ ... may have bad behaviors about using cell phones because they/ ... they're reckless annnd ... they're not responsible enough or mature enough to use a cccell phone appropriately ... and not all of them ... So I think I would agree with Jessica's mother to actually (the end of one minute)

#### Participant 04

Yees if I was jessica's mom, I would get her a new camera cell phone, but in condition: To improve herrr phone behaviouuurs and use it rationally ... because, firstly, every teenager her age got one, and I don't want her tooo/to have the feriority complex or that / ... secondly, camera cell phones are easier to use and much smaller than digital cameras. They're even quicker to take pictures well. They're also inexpensive; you can have two things in ooone, a phone and a camera at the same time ... with a cheap price ... Eh finally, camera cell phones are always handy and occupyyy less space. They can fit in a pocket, so we don't have to carry them in a bag ... Besides aaall these reasons, if she misbehaves, she will be punished, and I will take her phone.

#### Participant 05

Good afternoon madam, this is my answer to the questions: If you were Jessica's mother, would you get her a camera phone? Why? Or why not? So, if I were jessica's mother ... of course I will buy her ... a camera phone/ ... a new camera phone because I think it's teenagerrr girl uh from /from her voice. At first annnd because it's a way/ I thinkkk this mobile phone is going to be a way to communicate easily between us. And eh If I need it of cour/ ... For example if I need it I will call /I will call her ... anddd as long as she will use it in the right way, and this is the most important thing.

#### Participant 06

The human faaace is extremely expressive, able to convey countless emotions without saying a word. Body language is my opi/ in my opinion ... help/ we help to understand the/the others and identify emotions, statuuues, even our lifestyle. And by body language ... that those eh around us ... can know ... whether we are honest and trust or dishonest and deceptive ... Some of these gestures which I use ... first smile to show them my ... pleasure and my respect ... Second, eye

contact, it means interest, affection ... **eh** and attraction. Also, touch or hug **haaas** a different kind of **eh** hugs, but in general (the end of one minute)

Participant 07

Body language is a language in **itseeelf**, and it is one all of the most beautiful **languageees** which words and letters are not used. But, it's **sss** expressive and describes what a person is trying to say **orrr/ ... or** when he unable to speak. Body language is so helpful specially for this kind of people ... Her gestures are endless **annnd** ... best example is the people who cannot speak; they used as official language, and another example, if we travel to China, we find that they bow as a kind **offf** salutation. In **Indiaaaa**, they join hands to ask **forgiv/ forgiveness** the other examples that's mean that it's very important, and it's not confine to one category. **It's ver/ ... it's for everyone** (the end of one minute)

Participant 08

Body language is type **offf** nonverbal communication in which physical behaviour as opposed to word **um** are used to express or comprehend **the/ the** information. Such behaviour include facial expression, body posture, gesture, eye contact, and the use of space. Body language **um** ... exist in **boththth eh** animals and humans too, and this body language can help everyone to pick up spoken issues or **onnn/on** negative feelings ... in others. **Weee/ we** can also use body language **innn** positive way to add strength to our verbal **messages of/ ... and the number of** gesture which I usually use it **um** eye contact is especially important type **offf** nonverbal communication the **wayyy** you look at someone (the end of one minute)

Participant 09

I think that the use **offf** body languages is very important ... and **uh** really requires it in our life for every person. **Mosttt ussse** body languages because it express how **iss** strength and power of his personality ... In addition to that, **theee** majority of the old age are says that the action speak are louder **thannn** words. And positive body languages is make the person more creative. **Eh** as you know the body languages help people **tooo** convince **orrr** to put her opinion clearly and forward to be more easily than the other people ... **whooo** they are **nottt** use body languages in their life.

Participant 10

... The body language is very important. It's helps us to understand and decode what the person want to say ... to understand the emotions. Also and sometimes, if we don't use the body language, you could be misunderstood ... Those gestures reduce **stresss** in the interview ... or presentations. Sometimes, we have to speak with body language to reduce our **stresss** in front of unknown people or ... people we don't know. **Sooo**, I think **annnd** in my opinion **eh** the body language **iis** something **impooortant**, **eh** and we have to use it **eh to/ to** express our **emoootions** **annnd to /to /to** the message well ... so that people could you get us and could get what do we mean (the end of one minute)

Participant 11

In my opinion, the job is **mooore** offbeat **iss** ... the second job because this work is very difficult in my opinion **uh because/ ... because** is not easy is tired and **iss** requires more responsibility ... The job I think that I do ... is the job of teacher because I like this job. When I was young, this job is the best in my opinion. I like to teach pupil **eh** a lot and give them **infor/information**. **Eh** the job I think that **I cannot iss/ ... I cannot do iss** the work in hospitals **because the work/ because working** in the hospitals (the end of one minute)

Participant 12

**Weeeelll**, I **thinnk** ... the ice taster is more offbeat than ... shopper ... because ... it's **sss** more unusual ... **Eh** we don't **see** ... a lot **offf eh** ice cream taster as much as we see ... someone buying something or somethings to someone else. That's more, more, and more unusual ... **Eh** so that's why in my opinion I **thinnk I ... can do no/ I can do both**. I can do **theee** shopper job. Why? Because I get the abilities; I get the skills ... I'm good in money. **I can/ I can** walk for long distances, so that's why I think (the end of one minute)

Participant 13

Hello, in my opinion, the job **whichchch** is offbeat in the **worlddd** is a shopper ... I mean to be a person who bought other people their stuff is **oftennn** ... **eh** fill of fears. For me, ... **it is of/it's weird** because most of people **theyyy knowww who/what** to **selectttt**, and they prefer sometimes **tooo** do this personally ... So, I find it **offbeattt** that I give money and list of jobs ... for **someonnn** to buy **meee** things ... **eh** that I need in my daily life ... For me, the job **eh** they cannot work is a shopper. I cannot be a shopper because I cannot buy things **eh** to people ... believing that there is **aaalways some/something eh pri/pri/private**.

Participant 14

Hello in this / ... Hello I am going to talk about the offbeat jobs which means the unusual jobs **theeee /not like theeee** normal ones that we meet in our normal life. After listening to both jobs, in my opinion, the professional shopper is much more offbeat, and that because for every factory have to own its professional taster. But, when it comes to people ... the majority of them ... do **theierrr** shopping by their own. **Eh** and the job I think I can fit in, ... and I do in the best way is the food taster because I'm not that **good /good** with money, and I rather to work alone not **likkke** the **professionalll** shopper that work with people. And beside, they have extremely sensitive buds that can qualify me to become a **gooddd** food taster ... It is not easy **to f/to find** or start offbeat job because they are not common **between/ in** our normal life.

Participant 15

I think that the more offbeat job is the shopper one because it's makes sense to find someone to taste the flavours and create new ones, especially in food factories, ... **but it looks/ but theeee shopping one it looks** more like a routine or habit, not a job. I think that the one that's gonna suit me better is **theeee** ... shopping one because, as a girl, I truly love shopping; ... it makes me **sooo happyyy**. It's really interesting **to f/ to discover** ... **the new/ the different** styles and taste in clothing of other women in all ages. It's really **interestinnng**, **aaand** I'm so good with money. I believe **that I'm /that I'm** not gonna be successful ... as an ice cream taster ... because I hate ice cream. I really don't like it, ... **aaand** I'm fond of spicy food. So, I cannot just stop eating spicy food to ... taste ice cream. I know it's not going to be easy for me (the end of one minute)

Participant 16

Hello, I **prefeeer** the traditional classes ... even if we have the internet, technology, and online classes. The **traditionalll** ones are the best forever ... I think the **traditionalll** classes are useful and rich of advantages because when the **teacherrr** give us the lecture and explain it for us he **willl ha/ if we haven't** understood, we could ask **q/questions** directly. Of course he was simplify it and give us other examples; also, he will test our knowledge by quiz for example ... However, online classes are so boring; the teacher transmits the lesson you have to understand by **yourseelf** and comment or give your opinion just, and he **willl** test your knowledge directly. So, I think that ... **um** the traditional classes or taking classes **doooes** not have **anyyy** disadvantages (the end of one minute)

Participant 17

I prefer online classes because it's more convenient. **Uh** online classes can be very easy ... **t/ to** maintain and gives a really flexible schedule that allows you to do multiple task a day instead of just taking up all your time to go to class and attend for multiple hours. Also, **you can/ ... you can** decide when you want to attend your class and do your tasks, especially for me that I want to study at night and do **otherrr** daily activities in the morning. **Aaand yeah** some of these disadvantages is that it's not as engaging as in-person classes as you do not see the teacher and **you do not eh / ... you do not** ask questions as immediate as in-person classes. Also, you **arre** completely dependent on yourself ; you do not have any extra help, so any information you have to obtain on your own and ... **you've/ ... you got** put the work **so youuu/ so you** (the end of one minute)

Participant 18

There are many learners that prefer taking classes, but for **meee**, I prefer online learning because I feel comfortable when I ... learn at home. I can read my lessons and do my homeworks in any time and at any place, no need to sit for five hours in a chair ... Besides that, ... in our two weeks of online learning, I save a lot of time **I can /I can** read my lessons more **tiimes**; I search for other **sourceees**; I watch **videooos**. Also, I can take a small break when I need ... In spite all of **thaaat** the

online learning has **ooone** bad side which is that **aaall** your work is on the phone, ... of **couuurssse** in the case you don't have a laptop. And **actually** working in phone is so tiring and not effective sometimes because I **usuallly** learn with papers. I like (the end of one minute)

Participant 19

For me, I **preffer** taking traditional classes **eh** because, let's be honest, sometimes it's hard to leave the old habits behind and start a whole new routine ... Also, ... traditional classes allow us to **creattte** meaningful relationships that will probably last for years if we choose the right person ... **Aaand** it provides students with a good study **plaaan**. University officials organized the course in that way that **aaall** the students can attend them. Attending classes means join the class on time. In this way, students will get a routine of their own which will inevitably make the students punctual and disciplined ... In addition to this advantages, you can also discuss **issuuues** with classmates professors and this is important (the end of one minute)

Participant 20

**Uh** I'm going to talk about taking classes over the internet. First of all, I prefer taking classes because I'm a visual and auditory learner. So, for me, the best way to learn is when I **mmm** in the classroom with the teacher and classmates **listen/ eh listening**, writing, ... and seeing the teacher while he is explaining and **ex/ also exchange** opinions with my classmates ... **Eh** for distance learning, it's also good but I don't like or support it because of its disadvantage ... like network problems **eh** sometimes net cut off **we/ we** miss **theee/ the** online class because you have a guest ... , or even you forget about **the/ the** class ... In my opinion, my mood **whennn** I'm at home doesn't motivate me to study ... , so **the/ ... the** advantages of **classic classic /eh classic classes** (the end of one minute)

## Referrals and References

- [1] - Allwood, J. (2017). Fluency or Disfluency? In *Proceedings of DiSS*, the 8th Workshop on Disfluency in Spontaneous Speech 1. Royal Institute of Technology.  
DOI: 10.1017/S0025100301001128
- [2] - Fox Tree, J.E. (1995). The effects of False Starts and Repetitions on the Processing of Subsequent Words in Spontaneous Speech. *Journal of Memory and Language*, 34(6), 709-738. [https://doi.org/10.1016/0010-0277\(83\)90026-4](https://doi.org/10.1016/0010-0277(83)90026-4)
- [3] - Johnson, W., Boehmler, R. M., Dahlstrom, W. G., Darley, F. L., Goodstein, L. D., Kools, J. A., Neely, J. A. Prather, W.F., Sherman, D., Thurman, C. G., Trotter, W. D., Williams, & M. A., Young. (1959). *The Onset of Stuttering: research findings and Implications*. University of Minnesota Press.
- [4] - Joseph, S., Uther, M. (2009). Mobile Devices for Language Learning: Multimedia Approaches. *Research and Practice in Technology Enhanced Learning*, 4(1), 7-32.
- [5] - Lennon, P. (1990). Investigating Fluency in EFL: A Quantitative Approach. *Language Learning*, 3, 387-417.
- [6] - Levelt, W.J. (1983). Monitoring and Self-repair in Speech. *Cognition*, 14, 41–104.
- [17] - Levelt, W.J. (1984). Spontaneous Self-Repairs in Speech: Processes and Representations. In *10<sup>th</sup> International Congress Phonetic Sciences* (pp.105-117). Foris.
- [8] - Levelt, W.J. (1989). *Speaking: from Intention to Articulation*. MIT Press.
- [9] - Lickley, R. (2015). Fluency and Disfluency. In M. A. Redford (Eds.). *The Handbook of Speech Production* (pp. 445–474). Wiley Blackwell. <http://doi.org/101002/9781118584156.ch20>
- [10] - Lickley, R. (2017). Disfluency in Typical and Stuttered Speech. In C, Bertini; C, . Cetala; G, Lenoci; C, Meluzzi; I, Ricci (Eds.) *Fattori sociali e biologici nella variazione fonetica-Social and biological factors in speech variation*. (pp. 373-387). Milano. <https://core.ac.uk/download/pdf/155779398.pdf>
- [11] - Moore, J. D., Tian, L., & Lai, C. (2014). Word-level Emotion Recognition Using High-Level Features. *International Conference on Intelligent Text Processing and Computational Linguistics* (pp. 17-31). Berlin, Heidelberg: Springer.



- [12] - Nation, I.S.P. (1991) Fluency and Learning. *The English Teacher*, 20, 1-8.
- [13] - Schachter, S., Christenfeld, N., Ravina, B., and Bilous F. (1991). Disfluency and the Structure of Knowledge. *Journal of Personality and Social Psychology*, 60(3), 362-367
- [14] - Segalowitz, N. (2010). Cognitive Bases of Second Language Fluency. 10.4324/9780203851357.
- [15] - Shriberg, E. (2001). To 'errrr' is Hhuman: Ecology and Acoustics of Speech Disfluencies. *Journal of the International Phonetic Association* 31(1), 153-169  
<http://doi.org/10017/S0025100301001128>
- [16] - Vásquez, A., Hansen, A. L., Smith, P C. (2010). *Teaching Language Arts to English Language Learners* (1st ed.) Chichester, UK: John Wiley & Sons. <https://doi.org/10.4324/9780203856482>
- [17] - Williams, J. (1984). Repairs in Conversation: A Demonstration of Competence. *Working Papers in Educational Linguistics* 1(1), 61-74