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Mispronunciation Problems of Affricate Sounds by Iraqi EFL Learners: An Empirical Study in Face-to-Face learning and E-learning

A B S T R U C T

Iraqi EFL learners often mispronounce the two affricate sounds in English: the unvoiced affricate /tʃ/ and the voiced affricate /dʒ/ owing to a lack of exposure to English as a foreign language.

In this paper, the researcher investigates two problems, which are vital to discuss mispronunciation problems of affricates in Iraqi colleges of arts. The first problem is why Iraqi undergraduates mispronounce English affricates in face-to-face training and e-learning and the second problem is what phonological process occurs in the mispronunciation of these two sounds in both types of teachings.

The study relates phonetic and phonological approaches to the analysis of the formulation of such a mispronunciation. Firstly, the writer uses a questionnaire to find out the differences and the similarities among Iraqi EFL learners in two colleges of arts relating to affricates. Secondly, the writer measures what affricate sounds Iraqi EFL learners mispronounce when they produce the given words.

The results reveal that in face-to-face teaching there are three positions for committing mispronunciation of these two sounds: initial position, medial position and final position. In the pronunciation of the sound /tʃ/, the highest percentage for mispronunciation happens when it occurs finally. However, when /tʃ/ sound occurs medially, the percentage was inconsequential. On the other hand, the highest percentage for /dʒ/ takes place when it occurs initially and the least percentage when it comes about medially. In e-learning, has negative impact on learning

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مشكلة سوء النطق لاصوات الافريكيت من قبل الطلبة العراقيين متعلمي اللغة الانكليزية كلغة ثانية : دراسة
عملية في التعليم الحضوري والالكتروني

أ.م.د. رافدة منصور الحلو / كلية الآداب / الجامعة المستنصرية / بغداد العراق
الخلاصة:

يهتم هذا البحث بعدم معرفة الطلبة العراقيين دارسي اللغة الانكليزية كلغة ثانية بنطق اصوات الافريكيتس في
هذا البحث يتناول مشكلتين وهما عدم معرفة النطق الصحيح لهذين الصوتين عند التعليم الحضوري والتعليم
الالكتروني، والمشكلة الثانية ماهي العمليات الصوتية التي تحدث في التعليم الحضوري والالكتروني.

استخدم الباحث الاستبيانات لمعرفة الاختلافات بين التعليم الحضوري والالكتروني
جاءت النتائج: إن الدراسة الحضورية فيها ثلاثة أماكن تكون فيها اخطاء عندما تكون في البداية والوسط في
تلفظ الصوت /ت ش / و اعلى النسب المئوية جاءت عندما يقع هذا الصوت في الأخير، من جهة اخرى إنّ
اعلى نسبة للصوت /ج/ تحدث عندما يكون في البداية اما عندما يكون في الوسط فهو الاقل.
وقد اظهرت الدراسة إن التعليم الالكتروني له تأثير سلبي على التعليم بالنسبة للطلبة متعلمي اللغة الانكليزية
كلغة ثانية

INTRODUCTION

The problem: - the study discusses mispronunciation problems of affricates in Iraqi colleges of arts. The first problem is why Iraqi undergraduates mispronounce English affricates in face-to-face training and e-learning and the second problem is what phonological process occurs in the mispronunciation of these two sounds in both types of teachings online teaching and face to face teaching.

The hypothesis: - H1- it is hypothesized that the position of the sounds /tʃ/ and /dʒ/ when they occur initially, medially, and finally in the words affect the students' ability to produce these sounds correctly.

H2- Online study has a negative effect on the learners' ability on their recognition of the sounds/tʃ/ and /dʒ/ when they occur initially, medially, and finally in the words.

The objectives of the study: - In this paper, the researcher investigates two problems, which are vital to discuss mispronunciation problems of affricates in Iraqi colleges of arts. The first problem is why Iraqi undergraduates mispronounce English affricates in face-to-face learning and e-learning and the second problem is what phonological process occurs in the mispronunciation of these two sounds in both types of teachings.

The limitation of the study: - 1- the present study is limited to the study of the affricate consonant sounds not any other consonants sounds.

2-Detecting the online study has negative or positive effects on the learners

3- It is only Iraqi EFL first year students of English department colleges of Arts and colleges of educations at the universities of Baghdad and of Mustansiriyah are the samples of the study.

The procedures: - 1- the present study will examine the nature of affricate sounds through studying and analyzing the combination of the affricate sounds, they are the stops sounds /t/, /d/ and the fricative sounds /f/ and /ʒ/. As well as investigating the affricate sounds themselves.

2- The researcher will examine the first year students to investigate whether they are able to read the words which contain the affricate consonants when they occur initially, medially, and finally.

3-The study would investigate the learners' ability to recognize the sounds /tʃ/ and /dʒ/ in two tests online and in present tests to see whether online learning has negative or positive effect on learners

Section 1-

The Stops

1.1 Stops in general

Stops consonants: - a term which is used in the phonetics classification. It states that the sound which is formed by a whole closure in the vocal apparatus. There are two types of stops simple and complex contingent on whether the closure is formed from one place or from two places at the same time for instance African languages. Or consonants shaped with simultaneous glottal stops. The other type of stop consonant concerns with the way of the airflow, whether ingressive or regressive. Ingressive stop as suction stops, egressive stops as pressure stops. Concerning English language, it is egressive stop (pressure stop) (Crystal,1988: 10)

1.2 Articulators of the plosives

Waelngre (2009 :126) explains that the closure or stop portion is achieved by the lower jaw “lip” come in contact with the higher lip. Air pressure occurs behind this bilabial occlusion according to the fact that velum is elevated, closing off the oral cavity from the nasal cavity. Due to this there is simultaneous vocal folds vibration during the production of /b/. The voiceless bilable stops /p/ can be aspirated during its production

Word examples as toe, doe, liter, leader, hit, hid

Phonetic description/t/ = voiceless coronal – alveolar stop- plosive.

/d/ voiced coronal-alveolar stop- plosive.

The closure or stop portion is achieved by the edges of the tongue (corona) coming into contact with the alveolar ridge (alveolar). Air pressure is created behind this occlusion; the velum is elevated closing off the oral from the nasal cavity. There is simultaneous vocal folds vibration during the production of /d/. The voiceless coronal –alveolar stop/t/ can be aspirated during its production

1.3 Manner and place of articulation of stops

Ohala (2014:109) says that the most important thing is that there are two main groups of manner of articulation “obstruent and sonorant” each with subdivisions. An obstruent is that sound which noticeably obstructs the flow of air in the vocal tract to a degree that turbulent noise is generated either as continuous friction or as a noise burst. Obstruent may be stops or fricatives (ejectives, implosives, and clicks are inherent stops.) Sonorants, which do not obstruct airflow, are split generally into laterals, glides approximants, nasals, and vowels. Stops give a complete obstruction of the flow, for example, “the glottal stop in the name of the Hawaiian island O’ahu /oʔahu/” (Ohala, 2014:109). The other subclass of stops is affricates which are stops but with a fricatives release, as in the initial and final consonants of English judge /dʒʌdʒ/. (Ohala ,2014:109)

1.4 Place of articulation

Ohala (2014:109) continues his explanation saying that the main seats of pronunciation of speaking sounds, preceding from the furthest rear places to the outermost frontward: “glottal pharyngeal, uvular, velar, palatal, alveolar, dental, and labial”. Better place distinction can be formed if required by adding the prefixes pre-and post- and several immediate constructions could be distinguished via these terms

Roach (2010:26) sheds light on the characteristics saying: -

“A- One articulators is moved against another, or two articulators are moved against each other, so as to form a stricture that allows no air to escape from the vocal tract. The stricture is then total.

B- After this stricture has been formed and air has been compressed behind it, it is released- that is, air is allowed to escape.

C- If the air behind the stricture is still under pressure when the plosive is released, it is probable that the escape of air will produce noise loud enough to be heard. The noise is called plosion.

D-There may be voicing during part or all of plosive articulation” (Roach,2010:26)

1.6 Phases of plosives

According to Knight (2017:139) he mentioned that there are three stages when one pronounce the stops / p,b,t,d,k,g/ /ʔ/ “When the articulators are in their resting position , as if a person were breathing normally . If the articulators articulate/p/ for example the lower lip approach the upper lip. This is called approach phase of a plosive. The lower lip continues to approach the upper lip until they touch. While they are touching, the air from the lungs cannot escape and pressure builds up behind the closed lips. This part of the sequence is termed the hold phase. You may hear plosives called oral stops, as the air in the oral cavity is stopped completely. Then the lower lip moves away from the upper lip, and air escapes rapidly, with the slight popping sound characteristic of plosives. This is called release phase”(Knight, 2017:139).

Whereas Roach (2010:26) suggest that there are four phases, these phases are:-

“1- The first phase is when the articulator or articulators move to form the stricture for the plosive. We call this the closing phase.

2- The second phase is when the compressed air is stopped from escaping. We call this the compression phrase.

3-The third phase is when the articulators used to form the stricture are moved so as to allow air to escape this is the release phase.

4-The four phase is what happens immediately after the third release which is called as the post-release phase.”

Roach (2010:27) continues saying that English language has six stops (plosive) /p t k/, /b d g/ and frequently the /ʔ/ occurs, these plosives may have different places of articulation. The plosives /p b/ are called bilabial due to the pressing of the lips toward each other, /t d/ are alveolar because the tongue blade presses against the alveolar ridge. The tongue is not touching the front teeth as it does in the dental plosives which is used in most languages. The plosive /k , g/ are velar ; the back of the tongue is touching the end of the palate which is the soft palate. The

plosives /p t k/ are voiceless whereas /b d g/ are sometimes voiced sounds in some places in other places they are partially voiced and sometimes are voiceless. These sounds occur initially, medially, and finally.

1.7 Aspiration

According to Katz (2013:101) who explains that the sounds /p t k/ become aspirated when stressed and syllable initial (at the beginning of a syllable). This rule captures that fact that the phoneme /t/ is represented by the aspirated allophone /t^h/ under these specific conditions. Each phonological rule usually has an IPA diacritic or symbol which is ^h as in the following examples peace/^hpis/, attire /ə^htair, kiss/^hkiss/

These examples show the essential properties of English phonology which is aspiration; Roach (2010:26) defines aspiration as the release of /ptk/ is chased by clear plosion- which is, a spurt of noise. After that the post – release stage, a period through which air outflows through the vocal folds, creating a sound like /h/. The release of /bdg/ is followed by weak plosion, and this happens at about the same time as, or shortly after the beginning of voicing. The most important difference then between initial /ptk/ and /bdg/ is the aspiration of voiceless plosives /ptk/.

1.8 Allophonic variations of /t/ and /d/

A frequent allophonic variation of /t, and /d/ is what is known as the flap, tap, or one- tap trill, /r/. For example can be heard in words such as 'ladder' , butter and 'city' when these stops are preceded and followed by vowels. Phonetic description/r/=voiced coronal- alveolar tap, flap, or one –tap trill. This sound involves a single rapid contact between the active and passive articulators. The contact is very brief; there is not a build-up of air pressure instead, it is a rapid and relaxed movement toward the alveolar ridge in which the tongue tends to 'bounce off' and produce a much brief occlusion. The velum is elevated during the production, and there is simultaneous vocal fold vibration. When one produces the word 'ladder' slowly and consciously feeling the build –up of air pressure and the release for /d/. When one tries a casual production of the same word with the tongue briefly touching the alveolar ridge producing /r/. We note here that the differences in how the two articulations feel and, importantly, how they sound. (Waengler, 2009:127)

Waengler (2009:127) continues explaining that “the sounds /kg/ example words

cap, gap, backer- bagger, sack-sag

phonetic description

/k/ = voiceless post dorsal – velar stop-plosive

/g/ =voiced postdorsal- velar stop plosive.”

The closure, or stop, portion is achieved by the posterior body of the tongue (postdorsal) coming into contact with the soft palate or velum (velar). Air pressure is created behind this occlusion; the velum is elevated closing off the oral from the nasal cavity. There is simultaneous vocal fold vibration during the production of /g/. The voiceless post dorsal-velar stop- plosive /k/ can be aspirated. (Waengler 2009:127)

1.9 Position of the stops

Roach (2010:40-41) explains that these stops occur in three positions, in initial, in medial, and in final position

1- Initial position (cv):- The closing phase for /ptk/ and /bdg/ take place silently. During the compression phase there is no voicing in /ptk/ , /bdg/ there is normally very little voicing – it begins only just before the release . If the speaker pronounces in initial /bdg/ very slowly and carefully there may be voicing during the entire compression phase (the plosive is then fully voiced while in rapid speech there may be no voicing at all. In initial position /bdg/ cannot be preceded by any consonant but /ptk/ may be preceded by /s/. When one of /ptk/ is preceded by /s/ it is unaspirated. It is clear that the un aspirated /ptk/ of initial combination /sp,st,sk/require the sound quality that marks English speakers recognize a plosive as one of /bdg/; if a recording of a word start with one of sp, st,sk can be heard with the s omitted, an initial, b,d, or g is apparent by English speaker.(Roach,2010:27)

2- “Medial position (vcv): the pronunciation of p,t,k, and b,d,g, in medial position depends to some extent on whether the syllable preceding and following the plosive are stressed. In general we can say that a medial plosive may have the characteristic either of final or of initial plosives”. (Roach, 2010:27)

3- “Final position (vc): final /b,d,g/ normally have little voicing ; if there is voicing , it is at the beginning of the compression phase; /ptk/ are always voiceless . The plosion following the

release of /ptk/ and /bdg/ is very weak and often not audible. The difference between /ptk/ and /bdg/ is primarily the fact that vowels preceding /ptk/ are much shorter. The shortening effect of /ptk/ is most noticeable when the vowel is one of the long vowels or diphthongs. This effect is sometimes known as pre-fortis clipping". (Roach, 2010:27)

Section 2

The Fricatives

2.1 Fricatives in general

Fricative is a term which is used in the phonetic arrangement of consonant sounds due to their manner of articulation which is known as spirant, it deals with sounds which are made when two articulators are close each other that the air moving between them produces audible friction. The result is that the occurrence of stricture, or narrowing. There are many sounds in English which are voiced and voiceless as in *fin*/f/ , *van* /v/, *thin*/θ/ , *this*/ð/, *sin*/s/ , *zoo*/z/, *ship*/ʃ/ , *measure*/ʒ/ , *hoop*/h/ . The fricative manner of articulation generates great numbers of speech sounds than any other. These sounds are with a possible for significant duration (e.g.s- s-s) (Crystal,1988:182)

2.2 The production of fricatives

Frictions are produced "in two ways in the vocal tract. The first way is to produce a constriction of close approximation. To achieve this ,two articulators are far enough apart so that air can pass between them , but close enough together so that when it does , it becomes turbulent and produced friction noise just forward of the maximal constriction. This is how friction is produced for labiodental fricatives/f,v/ and dental fricative /θ,ð/ as in think and then. The second way is to direct a channel of air at another surface, such as the back of the teeth or the alveolar ridge, and when the moving air hit this surface, it becomes turbulent. This is how friction is produced for alveolar fricatives /s,z/ and post alveolar fricatives/ʃ,ʒ/as in ship, pleasure"(Ogden,2009:118)

Nathan (2008:14) also explains that fricatives are formed by getting a lower articular near to an higher one thus when air is obliged a raging breath would be caused . the breath is alleged as hissing fricatives sounds, they are "noisy, hissing" consonants it may cover the vibrations of the vocal folds on fricative sounds would result voiced fricative.

2.3 Variables of producing fricatives

The number of frictions which are “generated depends on a number of variables. First the width of the channel between articulators affects the pressure of air through the constriction with a narrower channel (e.g. for /s/ and /ʃ/) the pressure increases, and so the turbulence increases too. With a wider channel (e.g. for /f/ and /θ/) there is less pressure and therefore also less friction. Second, the volume of air affects the volume of friction generated. The more air forced through the constriction, the greater the pressure and therefore the greater the turbulence and the amount of friction noise. This will depend on the amount of air being expelled from the lungs”.(ogden,2009:119)

2.4 Types of fricatives

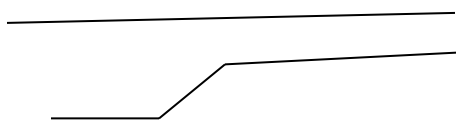
Fricatives are of two types “strident or non-strident”. The first type which is strident fricatives /s,z,ʃ,ʒ/ in these sounds there are clear friction noise, it is very clear in a higher frequencies, results from a rather narrow constriction.

The second type is non – strident fricatives are /v,θ,ð/ if one compares the sound /θ/ and /s/ for instance , one will hear that /θ/ has a much quieter sound than /s/ which sounds 'sharper' or 'brighter' and louder.(Ogden,2009:119)

2.5 Characteristics of fricatives

Fricatives are characterized by their hissing sounds which may be overheard when they are uttered. This hissing sound of fricatives occurs due to the air which comes from the lungs is absconding over a small inaugural .The air turn into variable and choppy thus hissing sound is overheard .So, when the fricative sound is pronounced, the articulators would come close to each other, but they are not touching. We call this case of narrowing approximation. This opening through which the air outflow causes the hissing sound. It is significant to remember that the articulators may be touching at the sides of the mouth, and one may feel this if one practiced with a fricative sound such as /s/ or /f/. (Knight, 2017:40)

Fig. 1 manner diagram for a fricative (Knight, 2017:40)



3.6 Examples of fricatives

Concerning the place of articulation /f,v/ as in the words 'fan', 'van', 'safer', 'saver', 'half', 'halve' these sounds are called labiodental : in these sounds the lower lip touches the upper teeth . The fricative sound is not strong and is barely noticeable in the case of /v/ (Roach,2010:97)

The sounds /θ,ð/, in these sounds which are known as dental fricative sounds are sometimes described “as if the tongue were placed between the front teeth, the tongue is normally placed behind the teeth with the tip touching the inner side of the lower front teeth and the blade touching the inner side of the upper teeth . The air escapes through the gaps between the tongue and the teeth as with /f,v/ the fricative noise is weak” (Roach,2010:41)

/s,z/ As in /sin/,/zink/ in these words which are containing the alveolar fricatives. The air outflows through a stricture which is the passage along the center of the tongue and the sound generated is moderately strong. (Roach, 2010:41)

/ʃ,ʒ/ example words 'ship', initial /ʒ/ is very infrequent in English, 'Russia' 'measure', 'Irish' 'garage'.

These fricatives are called post-alveolar, which means the tongue is touching the area occurs back than that for the sounds /s,z/. (Roach, 2010:41)

Section 3

The Affricate

3.1 Affricate in general

It is a term which is used in the arrangement of consonant sounds according to their manner of articulation: it states that a sound which is made when the air – pressure behind a complete closure in the vocal tract is slowly released; the early release forms a plosive, but the parting which follows is slow to form clear friction, and there is thus fricative component in the sound. (Crystal, 1988:10).

In English language, /t/, and /d/ sounds are released in this way as in ch- /tʃ/ of 'chip' and j –in /dʒ/of just (Crystal, 1988)

3.2 The structure of affricate sound

(Katz,2013:132,Roach,2010:97) agree upon the idea that the affricates/tʃ,dʒ/ are formed from plosive that tailed by a fricative, It may be treated with the pairs /tʃ,dʒ/ as a lone consonant sound , this is known as one phoneme analysis of tʃ and dʒ. It is /t/ +/ʃ/ and /d/ + / ʒ/ correspondingly they are previously recognized as single phonemes of English this case known as the two –sound study , as the words 'church' and 'judge' can be formed from five phonemes each like the following

/t-ʃ-3:-t-ʃ/ and /d-ʒ-Λ-d-ʒ/

The phonemic analysis is:-

/ tʃ-3:-tʃ/ and /dʒ-Λ-dʒ /

There is no separate/ tʃ,dʒ /phoneme, in some situations in English . A stop up against a homorganic i.e. sharing the same place of articulation

3.3 The nature of affricate

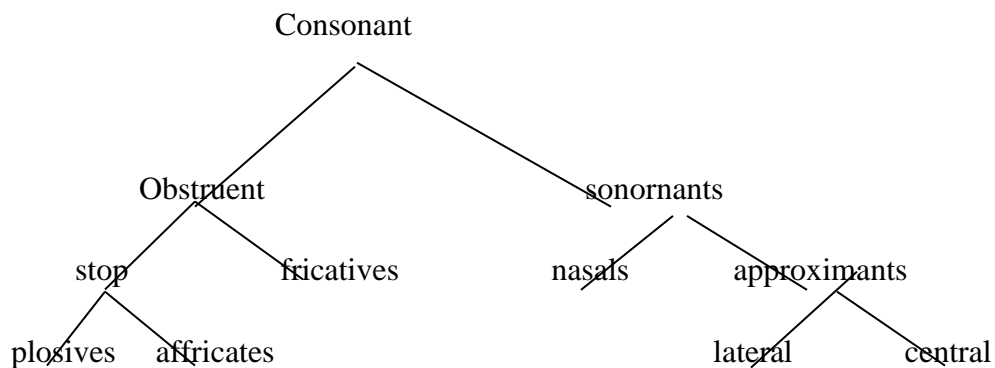
The affricate can be understood by pronouncing the affricates conforming to the plosive. The fricative glide which ends an affricate is an vital part of its pronunciation this glide effects its distinctive character, and it is not repressed. In this case affricates are different from plosive. The affricate is articulated with plosion. And the off-glide of the past tenses of verbs which end with /tʃ/ or /dʒ/ as in attached /ətætʃt/, pledged/ pledʒd/. (Jones, 2009:158)

3.4 Degree of affricates

Jones (2009:159) suggest that the degree of affricates conforming to the degrees of quickness with which the aspiration of the organs of speech is produced. If pronunciation is noticeable but only very slight, the sound is categorized as a plosive. But if affrication occurs, the result of the homorganic fricative would be definitely apparent by the hearer so the sound is classified as an affricate sound.

Collins & Mees (2008:47) shows the classification of the English consonant as the following.

Fig 2 overview of English consonant system Collins&Mees(2008:47)



3.5 The Production of affricates

Sometimes, the movement of the articulator which moves away from the passive articulator, it moves far from the other articulator, causes a narrow passage that in turn create a clear frication. This friction, occurring as a function of a very narrow release (often described as a slow release) of a plosive closure, gives a new manner of articulation, called affricate. Affricates then can be defined as “a close – knit homorganic sequence of stop plus friction, agreeing in voice. 'Homorganic means ' at the same place of articulation” (Ashby, 2012:61) .English has two affricates, the voiceless palate alveolar affricates /tʃ/ as in church, archer, and the voiced palatoalveolar affricate /dʒ/as in judge. (Ashby, 2012:61)

3.6 Examples of affricates

Gimson,(1989) gives the following examples /tʃ/ fortis (spelt ch, tch, t, ure, eous, and tion) when t is preceded by s, e.g. chain , watch , nature , righteous , question

Word initial cheese, chain

Word medial (inter vocalic) feature, richer

Word final (wretch, catch).

/dʒ/ - lenis (spelt j, g, dʒ, sometimes gg, dj , de, di, ch, e.g. jam , gem, midget, suggest, adjacent, grandeur, soldier

Word initial gin , jest

Word medial midget, ledger

Word final ridge, edge.

Section 4

Methodology

In order to verify the hypotheses of the study the researcher has tested the sample of the study face to face test and online test to see the effect of the face to face learning and online learning on Iraqi EFL students. And whether online learning has negative or positive effect on the learners' understanding.

5.1 The sample of the in present test

The sample of the study is 100 first year students, they were selected randomly of morning classes, department of English language and literature, college of Arts, college of education of Universities of Baghdad and Mustansiriyah during the Academic year 2019 -2018. They are divided as the following

Table 1-the division of the samples

Universities	Gender		Total
	Male	Female	
Baghdad/ Arts	14	5	19
Baghdad/ Education	15	13	28
Mustansiriyah / Arts	9	11	20
Mustansiriyah/ Basic education	15	18	33

5.2 Validity of the test

Anastasi (1976) defines validity as "the degree to which a test actually measures what it purports to measure." Validity is then concerned with what the test measures and how well it does and it is very important when the test is using the questionnaire. It shows whether the test looks valid to the testees (the participants of the test) and to administrate personnel who decides on its use. Through- validity the experts judge the test, they would give their opinion whether the test is

valid or not. The form of the test has been submitted to experts have been requested to judge whether the test items fulfill the aims of the study or not and to mention any necessary modifications. After some modifications, all the members of the jury affirmed the test validity.

5.3 Reliability (test-retest)

To get reliability the researcher tested a group of students which was about 40 students and after two weeks the researcher retested the students. The studies show that the period between the first test and the second test is about a week or two weeks (Adam, 1964). After that the researcher found the relation between the applications by using correlation factor person is of value (0.83) and this value is accepted for scientific research.

5.4 The answer sheet of the in present test

The test contains 12 items, 6 items for each sound /tʃ/, and /dʒ/. The words are containing the sound /tʃ/ when the /tʃ/ occurs initially, medially, finally.

The second group of words containing the sound /dʒ/ when the /dʒ/ occurs initially, medially, finally two words for each occurrence

The researcher presented the testees the questionnaires and recorded the answers

The question was the following:-

Read the following words

1- “charm, charge” , “ wretched, orchard” , “ wretch, portch ”

2- “gin, jaunt” , “midget, ledger” , “ridge , bilge”

5.5 The administration and scoring of the test

The student took the test in their classes at each university, the classes were comfortable for taking the test, and the researcher recorded the answers of the students. There were no outside disturbances or noises. The researcher gives 3 minutes to read the words before answering and reading them. If the student answers correctly the score would be 1, if s/he answers wrongly the score would be 0.

To get perfect and precise result of the test, certain statistical means were used

1- Percentage for each group

2-t-test

5.6 Online test

The researcher held this test on line. The group of learners are 100 first year students, they were selected randomly of morning classes, department of English language and literature, college of Arts, college of education of Universities of Baghdad and Mustansiriyah during the Academic year 2020 -2021. They are divided as the following

Table 1-the division of the samples

Universities	Gender		Total
	Male	Female	
Baghdad/ Arts	16	3	19
Baghdad/ Education	14	14	28
Mustansiriyah / Arts	10	10	20
Mustansiriyah/ Basic education	15	18	33

5.7 The answer sheet of the online test

The sheet was google form. It contains 12 items, 6 items for each sound /tʃ/, and /dʒ/. The words are containing the sound /tʃ/ when the /tʃ/ occurs initially, medially, finally.

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Read the following words

1- “charm, charge” , “ wretched, orchard” , “ wretch, portch ”

2- “gin, jaunt” , “midget, ledger” , “ridge , bilge”

5.7 The administration and scoring of the test

The student took the test online classes , and the researcher recorded the answers of the students. The researcher gives 3 minutes to read the words before answering and reading them. If the student answers correctly the score would be 1, if s/he answers wrongly the score would be 0.

To get perfect and precise result of the test, certain statistical means were used

1- Percentage for each group

2-t-test

Section 5

The Result

6.1 The result of the in present test

To get the result, the researcher used percentage and does the following procedures

1- Percent of the sound /tʃ/ in six words

A- The first two words the sound /tʃ/ occurs initially

B- The second two words the sound /tʃ/ occurs medially

C- The third two words the sound /tʃ/ occurs finally

The percentage was counted and as the following table

Table 1 the percentage of the first sound /tʃ/.

The tʃ initially	The tʃ medially	The tʃ finally	Total no. of students
53%	29%	68%	100

2- Percent of the sound /d3/ in six words

A- The first two words the sound /d3/ occurs initially

B- The second two words the sound /d3/ occurs medially

C- The third two words the sound /d3/ occurs finally

The percentage was counted and as the following table

Table 2 the percentage of the second sound /d3/

The d3 initially	The d3 medially	The d3 finally	The total no. of students
73%	21%	54%	100

The results refer that there are differences among students in their correct pronunciation of the two sounds

1- The correct pronunciation of the sound /tʃ/ the highest percentage when /tʃ/ occurs finally, but when it occurs medially the percentage was little

2- The correct pronunciation of the sound /d3/ the highest percentage when it occurs initially and the least percentage when it occurs medially.

To test the hypothesis the researcher used a t- test method to test the significance of the differences between the sounds /tʃ/ and /d3/ as in the following tables

Table 3 t – test when the sounds /tʃ/ and /d3/ are initially in the words

Sample	table value	T value	Standard of deviation	medium	The sound
	1.96	5.7	6.9	31.68	/tʃ/
	1.96	5.7	4.8	25.3	/d3/

The result shows that the sound /tʃ/ can be pronounced correctly more than the sound /d3/ when it occurs initially by the sample and with difference of significance for /tʃ/

Table 4 t – test when the sounds /tʃ/ and /d3/are medially in the words

Sample	table value	T value	Standard of deviation	Medium	The sound
	1.96	1.22	6.1	26.9	/tʃ/
	1.96	1.22	4.4	23.3	/dʒ/

The second result of t – test “table 4” shows that the sample cannot pronounce the sounds /tʃ/ and /dʒ/ correctly and with no difference of significance for the two sounds

Table 5 t – test when the sounds /tʃ/ and /dʒ/are finally in the words

Sample	table value	T value	Standard of deviation	medium	The sound
	1.96	2.01	4.1	20.3	/tʃ/
	1.96	2.01	3.7	18.9	/dʒ/

The result shows that the sample can pronounce the /tʃ/ correctly more than /dʒ/ and with difference of significance when the two sounds occur finally in the words.

Online test results

6.2 The result

To get the result, the researcher used percentage and does the following procedures

1- Percent of the sound /tʃ/ in six words

A- The first two words the sound /tʃ/ occurs initially

B- The second two words the sound /tʃ/ occurs medially

C- The third two words the sound /tʃ/ occurs finally

The percentage was counted and as the following table

Table 6 the percentage of the first sound /tʃ/.

The tʃ initially	The tʃ medially	The tʃ finally	Total no. of students
30%	15%	45%	100

2- Percent of the sound /dʒ/ in six words

A- The first two words the sound /dʒ/ occurs initially

B- The second two words the sound /dʒ/ occurs medially

C- The third two words the sound /dʒ/ occurs finally

The percentage was counted and as the following table

Table 7 the percentage of the second sound /dʒ/

The dʒ initially	The dʒ medially	The dʒ finally	The total no. of students
66%	20%	50%	100

The results refer that there are differences among students in their correct pronunciation of the two sounds

1- The correct pronunciation of the sound /tʃ/ the highest percentage when /tʃ/ occurs finally, but when it occurs medially the percentage was little

2- The correct pronunciation of the sound /dʒ/ the highest percentage when it occurs initially and the least percentage when it occurs medially.

To test the second hypothesis the researcher used a t- test method to test the significance of the differences between the remote and in present tests as in the following tables

Table 8 t – test when the sounds /tʃ/ is initially in the words

Sample	Medium	Standard of deviation	T value	table value

In present	29.8	1.5	4.33	1.96
Online	18.3	3.3		

Significance 0.5

Table 9 t – test when the sounds /d3/ is initially in the words

Sample	Medium	Standard of deviation	T value	table value
			4.33	1.96
In present	29.8	1.5		
Online	18.3	3.3		

Significance 0.5

Table 10 t – test when the sounds /tʃ/ is medially in the words

Sample	Medium	Standard of deviation	T value	table value
			1.98	1.96
In present	29.6	2.3		
Online	20	2.5		

Significance 0.5

Table 11 t – test when the sounds /d3/ is medially in the words

Sample	Medium	Standard of deviation	T value	table value
In present	30.5	2.34	2.10	1.96
Online	26.9	2.9		

Significance 0.5

Table 12 t – test when the sounds /tʃ/ is finally in the words

Sample	Medium	Standard of deviation	T value	table value
In present	30.1	2.91	3.05	1.96
Online	28.01	1.67		

Significance 0.5

Table 13 t – test when the sounds /tʃ/ is finally in the words

Sample	Medium	Standard of deviation	T value	table value
In present	30.1	2.91	3.05	1.96
Online	28.01	1.67		

Significance 0.5

Table 14 t – test when the sounds /d3/ is finally in the words

Sample	Medium	Standard of deviation	T value	table value
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In present	29.1	2.7	4.6	1.96
Online	23.5	2.01		

Significance 0.5

From the above t- test we found that the online test has negative effect on learning

6.3 Conclusion

According to the percentage results of the in present test:-

Percent of the sound /tʃ/ in six words

A- The first two words the sound /tʃ/ occurs initially

B- The second two words the sound /tʃ/ occurs medially

C- The third two words the sound /tʃ/ occurs finally

Percent of the sound /dʒ/ in six words

A- The first two words the sound /dʒ/ occurs initially

B- The second two words the sound /dʒ/ occurs medially

C- The third two words the sound /dʒ/ occurs finally

1- In the pronunciation of the sound / tʃ/ the highest percentage when /tʃ/ occurs finally, but when it occurs medially the percentage was little

2- In the pronunciation of the sound /dʒ/ the highest percentage when it occurs initially and the least percentage when it occurs medially.

3- The researcher concluded from the previous discussions that the students' ability to pronounce correctly are different from each other in pronouncing the English affricate sounds /tʃ/ and /dʒ/. The sound /tʃ/ is the most recognizable and is pronounced correctly when it occurs finally in the words and less recognizable and more difficult to be pronounced correctly when it occurs medially.

4- Whereas the sound /dʒ/ is the most recognizable and pronounced correctly when it occurs initially and it is less recognizable and more difficult to be pronounced correctly when it occurs medially.

The result of the online test percentage

1- Percent of the sound /tʃ/ in six words

A- The first two words the sound /tʃ/ occurs initially

B- The second two words the sound /tʃ/ occurs medially

C- The third two words the sound /tʃ/ occurs finally

2- Percent of the sound /dʒ/ in six words

A- The first two words the sound /dʒ/ occurs initially

B- The second two words the sound /dʒ/ occurs medially

C- The third two words the sound /dʒ/ occurs finally

1-The correct pronunciation of the sound / tʃ/ the highest percentage when /tʃ/ occurs finally, but when it occurs medially the percentage was little

2- The correct pronunciation of the sound /dʒ/ the highest percentage when it occurs initially and the least percentage when it occurs medially.

According to the t- test results of the in present test:-

5- The result shows that the sound /tʃ/ can be pronounced correctly more than the sound /dʒ/ when it occurs initially by the sample and with difference of significance for /tʃ/.

6- The second result of t – test “table 4” shows that the sample cannot pronounce the sounds /tʃ/ and /dʒ/ correctly and with no difference of significance for the two sounds

7- The result shows that the sample can pronounce the /tʃ/ correctly more than /dʒ/

8-In order to compare between the two tests, we found that the results of online test and, from the previous t- test tables, that the remote learning has negative impact on the learners' ability in recognizing the correct answers.

9- The second hypothesize is accepted that is "Online study has a negative effect on the learners' ability on their recognition of the sounds/tʃ/ and /dʒ/ when they occur initially, medially, and finally in the words".

10-The researcher concluded that the sample of the study committed their errors due to the use of the strategy of learning which is "guessing " of course , wrong guessing , led to their wrong answers.

3.5 Reasons behind committing errors

Corder (1982:1), Johnson (2001:59-60) agree upon the idea that there are two justifications for committing errors; first, it is pedagogical justification which is to understand the nature of errors is very necessary before a systematic means of eradicating them ; second justification is theoretical , which states that investigating of learners' errors is part of the regular study of the learners' language which is itself essential to an empathetic of the process of the second foreign language learning . It is just like a child learning his first language.

3.6 Recommendations

1- To focus on the student's teaching of English consonant and specifically on the affricate sounds.

2- To focus on teaching Phonetics and Phonology for students for four years not only for two years as we are doing now.

3- To help students and training them on e- learning if they need to use it in the future.

References

- Adams G.(1964) *Measurement and evaluation in Education psychology and guidance*_.New York : Holt- Rinehart and Winston
- Anastasi, A (1976) *Psychology testing*_.New York: Macmillan publishing Co.,Inc 4th ed.28
- Ashby,P.(2017) *Understanding phonetics*. UK: Hodder education
- Collins,B. &Mees.I. (2008) *Practical phonetics and phonology*. London: Routledge.
- Corder,S. (1982) *Error Analysis and interlanguage* . Oxford :Oxford University Press.
- Crystal,D. (1988) *A dictionary of linguistics and phonetics*. New York : Basil Blackwell Ltd.
- Gimson , A.(1989) *An introduction to the pronunciation of English* .London : Edward Arnold.:175
- Johnson, K., (2001) *An introduction to foreign language learning and teaching* . Harlow :Person Education Limited
- Jones, D.(2009) *An outline of English phonetics* . Ludhiana :Kalyani publishers
- Katz,W.(2013) *Phonetics for dummies*. New Jersey : Wiley&Sons, Inc.
- Knight ,R (2017) *Understanding phonetics* .New York
- Nathan, G.(2008) *Phonology a cognitive grammar introduction*. Amsterdam: John Benjamin publishing company
- Ogden , R.(2009)*An introduction to English phonetics*. Edinburgh : Edinburgh University press
- Ohala, J. (2014) *The Cambridge encyclopedia of the language sciences*. Cambridge_CUP
- Roach,P. (2010) *English phonetics and phonology a practical course*_Camdridge:CUP
- Waengler, J. (2009) *Introduction to phonetics and phonology from concept to transcription*. Boston: Person