وعي مُدرسات و طالبات اللغة الإنجليزية كلغة أجنبية حول أثر إرتداء النقاب على وضوح النطق

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ملخص البحث

ترمي هذه الدراسة إلى استقصاء تصورات المدرسات و الطالبات حول آثر إرتداء النقاب على وضوح النطق و كما قصدت هذه الدراسة استكشاف استراتيجيات بديلة لتعويض وضوح النطق، و استخدمت الدراسة المنهج النوعي لجمع و تحليل البيانات حيث تم جمعها باستخدام استبيان تم توزيعه على مدرسات و طالبات اللغة الإنجليزية بوصفها لغة أجنبية باستخدام عينة مدروسة و كشفت النتائج أن لإرتداء النقاب أثر واسع مُبلّغ عنه ذاتياً على وضوح النطق حيث أشارت المشاركات إلى مدى أهمية تعابير الوجه لإيضاح النطق بالإضافة إلى ذلك، تقترح المشاركات بعض الاستراتيجيات التعويضية و منها رفع مستوى الصوت، و استخدام المكبرات الصوتية، و توظيف الوسائل التعليمية المرئية. بناء على النتائج تقترح هذه الدراسة مجموعة من النتائج والتوصيات لمؤسسات تعليم اللغة الإنجليزية وصفها لغة أجنبية،وكما اقترحت بعض الدراسات المستقبلية للباحثين المهتمين

الكلمات المفتاحية: اللغة الإنجليزية لغة أجنبية، تصورات، وضوح النطق، تدريس، إرتداء النقاب

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EFL Female Teachers and Students' Perceptions of the Effect of Wearing *Niqab* on Their Speech Intelligibility

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Abstract

This study aims to investigate the EFL female teachers and students' perceptions of the effect of wearing *niqab* on their speech intelligibility. It also intends at exploring alternative strategies to compensate their speech intelligibility. The study employs the qualitative approach to collect and analyze the data. The data were collected using an open-ended questionnaire distributed among EFL female teachers and students who were chosen by a snowball purposive sample. The findings reveal that wearing *niqab* has a wide self-reported effect on speech intelligibility. The participants also indicate on the importance of the facial cues or expressions to identify speech. Additionally, the participants suggest some compensatory strategies among which are raising the voice, using microphone, and using visual aids. Based on the findings, the study offers some implications and recommendations for EFL teaching institutions. It also suggests some future studies for interested researchers.

Keywords: EFL, perceptions, speech intelligibility, teaching, wearing niqab

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1. INTRODUCTION

The most valuable commutative bridge between the teacher and his/her students inside classrooms is the clarity of the speech. If the students were facing difficulties to interrupt the teacher's speech, then most if not all the teacher's efforts would be wasted in vain and vice versa. Even though reaching the information today has been greatly facilitated and all kinds of sources are easily accessible. Some studies show that the most common teaching methods uses are ones such as; lecturing, explanation, narration, and demonstration (Rutkiene & Tandzegolskiene 2015). Mostly, the students are the inactive receivers of what is provided to them by their teachers. In contexts of teaching EFL, the teacher should model a good proficient language use. His/her English is viewed as the language, which inspire students to work harder to learn.

Face coverings play a substantial role in many religions, including Orthodox Catholic Christian, Judaism and Islam (Chowdhury, Abu Bakar, & Elmetwally, 2017). When Islam spread through many societies in Asia, it "incorporated some local veiling customs and influenced the whole region for centuries" (Chowdhury, et al., 2017, p.60). Nowadays, wearing *niqab* is considered as a visible manifestation of being a Muslim woman in the east and the west (Zempi, 2015). *Niqab*, which is "the Arabic term for face veils which cover women's hair, neck, shoulders and face, except two eyes are visible", symbolizes modesty, privacy, and morality (Chowdhury, et al., 2017, p. 60). The perspectives of veiled Muslim women and their reasons for wearing the *niqab* are usually absent from public debates (Bilge, 2010). Different studies revealed the motivation behind wearing *niqab*. For example, studies conducted in Canada (Ruby, 2006), France (Afshar, 2008; Wing, Smith, and Nigh, 2006) and the USA (Droogsma, 2007; Shirazi 2001, as cited in Zempi, 2015) revealed that there are various reasons behind wearing niqab. However, these are "very similar and equally diverse incentives, ranging from religious piety, to avoiding the male gaze, taking control of their own bodies, to asserting a Muslim identity as well as resisting sexual objectification and oppression" (Zempi, 2015, p.3).

2. LITERATURE REVIEW
2.1   Speech Intelligibility

A review of pertinent literature on the speech intelligibility indicates that it is "the extent to which a signal, produced by a speaker, can be deciphered by a listener" (Keintz, Hustad, Garcia, & Klasner, 2006). It is approached as a word or utterance recognition in natural communication situations. Thus, it is "a joint product of the speaker and the listener" (Hofman, 2017). Hofman also highlights that the intelligibility of speech could be varied according to a number of factors such as the nature of the spoken material (e.g. linguistics structure and length of utterance) and the content of the spoken material (e.g. the quality of the acoustic transmission of the speech signal, the availability of visual cues from the speaker, and

contextual support for the message to be transmitted) (ibid).

Speech intelligibility can be measured through a number of methods. The first method is a standardized speech intelligibility assessment where the assessment is possible by making audio-recordings of speech samples. Later on, the recordings are presented to English native listeners to transcribe or give intelligibility judgments (Hofman, 2017). The second method is to measure speech intelligibility by different online soft wares. These soft wares can provide a measure of speech intelligibility, audibility, speaking rate, and offer examples of pronouncing any sound, word, number, or sentence. They can also highlight unintelligible and problematic words in the speech of the speaker through analyzing recordings (Prism acoustics, 2013). As these methods are helpful to measure speech intelligibility, a perfect standard for speech intelligibility measurement is not currently available.

2.2 Factors That Reduce Speech Intelligibility of Teachers inside the Classrooms

The intelligibility of teacher's speech can be affected by a number of factors. Noise for example is an effective factor. Bradely and Sato (2007) explain that noise affects reading scores because it interferes with verbal communication especially that between teachers and students. Similarly, Xu and Zheng, (2007) add that speech recognition deteriorates dramatically in noise. Another factor which could affect the

intelligibility of speech is the reverberation time which is the time taken for sound to fade away in certain spaces. This factor is counted as one reason why speech intelligibility is negatively affected inside classrooms (Prism acoustics, 2013). A third factor is the echoing sound, which can cause distractions for both teachers and students (ibid). There are some other factors which might vary from a speaker to another and affect his/her speech intelligibility among which are the pronunciation accuracy, audibility and speaking rate (ibid).

The crucial factor in this study, however, is face covering. Different types of face-covering garments such as *niqab*, surgical mask, helmet; which are worn for religious; or safety/security purposes; can "possibly lead to miscommunication or complaints based on degraded intelligibility" (Fecher & Watt, 2011, p.664). A teacher usually provides both auditory and visual information to the students. Massaro & Cohen (1983) states that the "auditory information appears to be relevant to all important speech distinctions, whereas visual information is relevant primarily for place of articulation" (p.753). With covering the face, it becomes challenging the students to recognize the speech of the teacher. As class sizes grow bigger every year, increases the need to establish an environment where spoken communication between teachers and students inside the classroom is at its best.

2.3 Domains of Face-covering Effects on Speech Intelligibility

Face-concealing garments (FCG) obstruct the speaker's face and affect three domains (Fecher & Watt, 2011). The first one is misarticulating and compensation. They believed that due to the lip/nose contact, restricted jaw…etc., the speaker will try to compensate his/her speech quality by increasing the vocal effort. The second domain is the acoustic damping effect, which means face covers could cause changes on the acoustic features of the voice signals. Stating that these face covers act as a 'low-pass filter' (Coniam, 2005). This is leading to transmit specific frequencies and lower the transition of others. The third domain is the impaired recognition and visual speech, which results in complicating the listening process due to the lack of some required cues such as seeing the face of the speaker (Watt, Llamas, & Harrison, 2010 as cited in Fecher & Watt, 2011).

2.4 Wearing *Niqab* in an EFL Classroom Context: Beyond Religious Beliefs

There are different reasons behind wearing *niqab* in various societies. For instance, Kwok Pui-lan (2012) considers wearing *niqab* as it is not only a religious matter because of its' social, cultural, and political configuration of power. (as cited in Chowdhury, et al., 2017) Additionally, wearing the *niqab* by many Muslim women might mean assertion of identity of community, of pride in heritage, of rejection or resistance to, or even as a protest against mainstream society (Ahmed, 2011).

Likewise, in many areas of this study context, it is quite normal for female teachers to keep covering their faces inside mixed classrooms that contain male and female students. However, what is considered unusual is for them to keep wearing it inside classrooms, which have female students only. There are different reasons behind this. The first reason is the over-familiarity with wearing *niqab* outside the house. Many females who teach/study for more than six hours a day need to be covering their faces in the presence of male co-workers. Therefore, it becomes a habitual routine. The second reason is the lack of privacy in the classrooms. For example, as the doors and windows are usually open most of the time. Al-Amry, Al-Sadi, & Balkhair (personal communication, November 17, 2019) believe that females, who wear *niqab* at times they do not need to, are doing so due to the possible feeling of insecurity. This is because of a social belief that unmarried females should cover their faces in the presence of married females as a sign of modesty and reservation.

2.5 Wearing *Niqab* in the Study Context

Niqab is worn by the majority of adult females in most of the Yemeni educational institutions. Both female teachers and students keep their faces covered during classes. It is vital as a result to explore the effects and address

the consequences of this phenomenon such as the absence of the facial cues of the female teachers and students (Massaro & Cohen, 1983). Teachers need to offer and share the maximum of their knowledge and experiences in order to maximize their speech intelligibility, which is the foundation of a proper communication with students (Prism acoustics, 2013). However, speech intelligibility is threatened by wearing *niqab* inside classrooms which causes the students to miss the facial cues and signals that students can see such as how the teacher articulate speech, leading to possibly damage the speech intelligibility of the teachers who wear niqab inside the classrooms (Fecher & Watt, 2013). This could affect the students' comprehension especially as the schools' curriculum depends on students' ability to memorize and retain, the information mentioned in the class, which could be later revised (Mahmoud, 2016). On this basis, if the teacher's speech, from which initial learning stage takes place, is lacking intelligibility, then the students are going to miss important information they need to comprehend and pass their examinations.

As it is evident that efforts have been devoted by a number of researchers to identify the effects of different types of face covering garments (*niqab* included) on different aspects of articulation and speech intelligibility. (Llamas, et al. 2009; Fecher & Watt, 2013; Donnelly, et al. 2007) Yet, more studies need to examine the perceptions on the effect of wearing *niqab* on EFL teachers' speech intelligibly and search for compensatory strategies for teachers to use in response to the problem. In addition, this study is distinguished with its' motivation. The wide majority of the previous studies conducted in the field of face-covering are forensic motivated. However, the gap is quite wide on the studies of face-covers in the educational domain.

Investigating the teachers and students' perceptions towards the effect of wearing *niqab* on speech intelligibility of EFL teachers/students would broaden the understanding of an unprecedentedly researched area, as far as the researchers are concerned, in the Yemeni EFL teachers/students context. It is hoped that the findings of this study will provide sufficient data for Yemeni teachers, educators, and interested individuals on the existing literature of EFL. The findings of this study would present some domains of the possible effects of *niqab* on speech intelligibility as well a number of compensatory strategies that would maximize speech intelligibility and bridge the communicative gap between the teacher and her students with masked faces.

Accordingly, this study attempts to explore the perceptions of female students and teachers towards the effect of wearing *niqab* on EFL teachers' speech intelligibly. It intends to raise the teacher's awareness of this problem, so that the appropriate treatment measures could be taken. It is expected that the findings of this study would provide some noteworthy insights and practical implications for EFL educational

institutions in Yemen and other countries with similar environment.

2.6 Aims and Questions of the Study

This study aims to examine the teachers and students' perceptions of the effect of wearing *niqab* on speech intelligibility of EFL teachers and students. Also, it intends to explore a number of compensatory strategies that could be applied inside the classrooms by teachers and students who wear *niqab* to optimize speech intelligibility In order to achieve these aims, the study seeks to answer the following questions:

1- What are the EFL female teachers and students' perceptions of the effect of wearing *niqab* on speech intelligibility?

2- What are the compensatory strategies that EFL female teachers and students who wear *niqab* might apply inside the classroom in order to optimize speech intelligibility?

3. METHODOLOGY
3.1 Research Design

The procedures of survey design are followed to "describe the attitudes, opinions, behaviors, or characteristics of the population" (Creswell, 2012). Based on the fact that no other study, as far as the researchers are concerned, has explored the perceptions on the effect of *niqab* in EFL context, the researchers adapted and developed some questions that would explore the beliefs and opinions held by a number of English

teachers/students in a public university in Yemen.

3.2 Population and Sampling

The population of this study was EFL female instructors and students from the department of English, Faculty of Arts and College of Women at a public university in Yemen. The EFL instructors are members of the English Department in the Faculty of Arts whereas the students are seniors in the English Department at the College of Women. Therefore, due to time and the limited contacts of the researchers, a snowball sample, one type of purposive samples, was used as it would be the most appropriate method in this case. The researchers reached out the female EFL instructors who provided names and contact information of possible participants. Later on, the researchers sought permission and consent and asked the participants to answer the survey questions. The total number of the participants is 30, half of which are EFL instructors while the remaining are students of English language. All of them are wearing the *niqab* while teaching/studying. The size of the sample was determined based on Creswell's recommendations of qualitative research sample's size. According to him, a qualitative research should study a few individuals or a few cases. "This is because the overall ability of a researcher to provide an in-depth picture diminishes with the addition of each new individual" (Creswell, 2012, p.209).

3.3 Research Method

To fulfill the aims of this study, it is carried out with a qualitative method of data collection. The method used in this study is a qualitative questionnaire. According to Charlotte and Hagstrom (2017), the qualitative questionnaires are intended for documenting and collecting material for everyday life. They could generate "a unique material potentially valuable for a wide range of scholarly disciplines" (p. 2). Thus, the qualitative questionnaire is used in this study to collect data regarding teachers'/students' perceptions towards the effect of wearing *niqab* on speech intelligibility of EFL teachers/students. The questions of the questionnaire were adopted and developed after a review of the literature (Donnelly, et al. 2007; Fecher, & Watt, 2013; Llamas, et al. 2009) with particular modifications necessary to suit the objectives of the current study. It contained three open-ended questions. To ensure the validity of the questionnaire, it was given to four experts who are PhD holders and have taught English language for years in public universities in Yemen. In order to achieve better logical flow of the questionnaire, wording, clarity, and the order of the questions, the researcher made some adjustments based on the comments and suggestions of the experts. Therefore, all questions with semantic ambiguity were clarified or deleted, and others recommended by the experts were added. All the questions are open-ended which are "ideal when the researcher does not know the response possibilities and wants to explore the options" (Creswell, 2012, p.387).

3.4 Data Collection

To achieve the purpose of the present study, Creswell's (2012) five steps of qualitative data were followed. The first step is to identify the study participants and site, and engage in a strategy for sampling. For this step, a public Yemeni university was chosen to be the source from which participants will be selected. The second is to gain access to the site and individuals. Therefore, to gain access to the study site and participants, the researchers sought the permission and written approval from the college deanship to carry out the study. Whereas the participants showed they willingness to participate, and they voluntarily singed the consent form. The third step is the need to consider the type of information that help to achieve the research objectives. Thus, in this study, the type of required data was determined that could best answer the questions through reviewing the teachers'/students' perception towards the effect of wearing niqab on their speech intelligibility. The fourth step is to design the instrument for collecting the required data. Thus, various systematic steps were followed to develop the data collection instrument through reviewing the literature, drafting the instrument, checking it's validating, refining the instrument, and implementing it. The last step is to administer the data collection with special attention to potential ethical issues that may arise. Therefore, through the various stages of this study, the researchers had considered the ethical issues starting from getting an access to

the research site and participants and protecting their anonymity that are all adhered to the research ethics.

3.5 Data Analysis

For the purpose of data analysis of this study, the thematic analysis was followed. Braun and Clarke's (2006) identifies six phase thematic analysis: 1) familiarizing with data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report, for carrying out a qualitative data analysis., These phases were considered as a guide to provide a straightforward step-by-step way to conduct the data analysis. Therefore, after receiving the participants' written responses, the researchers had repeatedly and thoroughly read these answers in order to generate codes. Similar codes were then grouped under one category or theme. The result was six broad themes emerging from this analysis, which addressed the participants' perceptions towards the effect of wearing niqab on speech intelligibility of EFL and the compensatory strategies that could be applied inside the classrooms to optimize their speech intelligibility.

4.   FINDINGS AND DISCUSSION

The result of the participants' written responses analysis identified six emerging themes; identifying speech, facial cues, miscellaneous effects, audibility, visual aids and body language, classroom management and teaching tools. The following sub-sections describe the participants'

perceptions towards the effect of wearing niqab on their speech intelligibility, and the compensatory strategies suggested by the participants to enhance their speech intelligibility. Identifying each theme made it easier to capture related excerpts from the participants' written responses as evidence. Therefore, the gathered data excerpts for each theme were utilized and organized into a coherent and detailed analysis. Each excerpt is marked by the number of the participant (1, 2, 3, …), and the letter T (for a teacher) or S (for a student).

4.1 Identifying Speech

Throughout open-ended questionnaires, participants highlighted their views of the effect of wearing *niqab* on speech intelligibility in an EFL setting. A considerate amount of the responses conveyed that wearing *niqab* inside the classroom does affect speech identification. Making it difficult and challenging sometimes even to understand what the speaker is saying. They stated that speaking while wearing *niqab* causes the speech to be unclear, especially, if the speaker already had a quite or soft voice. Some participants referred to how identifying speech in Arabic between speakers who wear *niqab* is different from identifying English speech. There are no main issues dealing with the former; however, with the latter, some issues may occur. The following comments illustrate the participants' statements regarding the difficulties they face:

It affects the clarity of female voice as well as the loudness of the voice. In my opinion, it's considered as an obstacle in uttering the speech especially some speech sounds. (Participant 1-T)

To me, wearing niqab can affect the student to some extent. It can affect those students who have low voices which can cause miscommunication between the teacher and the student while giving an answer or a presentation. (Participant 5-S)

Their (students) voice is not heard by the teacher which makes them feel embarrassed. Also the pronunciation is not clear. (Participant 10-S)

As these excerpts demonstrate, a number of participants are suffering from speech identification problem. According to the participants, the reason why speech is difficult to be identified is that *niqab* acts as a physical barrier. It is directly attached to the face and is too close to the mouth; therefore, *niqab* could affect some speech articulators: the mouth and the nose. This result is congruent with a number of previous studies (e. g. Asadi, Kivanani, and Nourbakhsh 2016; Llamas, et al. 2009) which have discussed the effect of face coverings on speech production. For instance, (Asadi, et al., 2016) claimed that "when a fabric or other material is covering the mouth and nose, the propagation of the sound wave will be impeded, and the sound energy of certain spectral components of the signal will be absorbed" (p.31)

Also, some participants expressed how *niqab* affects speech articulators. For example, one teacher wrote:

The unclarity of some words is observed. The way of articulating is different from the correct one. Speaking without niqab is completely clearer and the articulation is better. (Participant 15-S)

Another student reported a difficulty to understand her teacher's speech when she wears *niqab*. She reported:

Sometimes we cannot understand the articulation of some words. (Participant 22-S)

Additionally, limited responses declared that there would be an effect on the quality of articulation; however, the effect is conditional. It depends on the characteristics of the voice of the speaker herself and the effort that she makes. Stating that as long as the voice is clear and audible, speech will be intelligible. Therefore, the speaker should put more energy in producing speech to make her speech as clear and correct as possible. For instance, the teacher 7 explained that issue by saying:

It cannot be much problematic because to me not all the effects depend upon the niqab; there is an effort depending on the voice itself. There will be little effect of wearing niqab, which can be managed. (Participant 7-S)

This finding comes in line with the study of Fecher and Watt (2011) which revealed different types of face

covers, such as surgery masks, helmets, niqab that affect the speaker's articulation due to lip/nose direct contact with the mask, restricted jaw evaluation, and skin stretching. Fecher and Watt (2011) clarified that "a perturbed lip protrusion in [ʃ] due to a mask being in contact with the speaker's lips may shorten the front tube of the vocal tract, leading to frequency shifts". (p. 663) Hence, it is vitally important for the English teachers/students to pronounce and for the first to instruct clearly and comprehensibly inside classrooms, otherwise communication will be hindered.

4.2   Facial Cues

It is well acknowledged in pertinent studies that speech intelligibility is maximized when facial cues are generated during speech production and are available to the perceiver (Fecher & Watt, 2013). In this study, the findings revealed that the participants have reflected on the importance of facial cues to comprehend the speech produced by masked females. There was almost a consensus that the speech is less intelligible when the mouth and lips are covered. Likewise, they indicated that being able to see the facial expressions and the movement of the lips of the females who wear niqab are quite crucial. However, failing to do so, higher chances of unidentifiable speech might be occurred. Additionally, the participants showed that they, as perceivers, need not only to hear properly what is said but also to see how

it was said. They emphasized that these facial expressions could highly assist them in the interpretation of speech, especially while speaking English as it is considered a foreign language and not often used. The following quotes manifest the some of the participants' views concerning facial cues.

In my opinion, it does affect the speech in the sense of the facial expressions. Wearing niqab can raise understanding problems if there is unclarity in the accent, the listener cannot read the lips nor see the facial expressions to come over this gap. (Participant 17-S)

Niqab affects the speech intelligibility because it hides the mouth. (Participant 11-T)

Niqab affects largely for us 'students' so when the teacher wears it, her voice is weakened and we can't see her facial expressions which affects the comprehension. (Participant 20-S)

Wearing niqab affects the speech intelligibility because wearing it prevents the listener from seeing the mouth movements and facial expressions of the speaker to help the listener getting the point that the speaker want. Also, sometimes the sound is affected because niqab is a barrier. (Participant 21-S)

This finding is allied to the finding of Naeem and Iqbal (2011) who concluded the importance of facial expressions as an efficient teaching tool that makes the teaching and learning context more interesting. They argued that through facial expressions used by teachers,

many difficult concepts and contents could be clarified to the students and promote interest in the teaching-learning proces

4.3 Miscellaneous Effects

The findings of the present study revealed some other contradictory effects of wearing *niqab*. As most of the study participants expressed some effect of wearing *niqab* on their speech intelligibility, few participants reported that their speech is not affected negatively by *niqab*. Moreover, unique ones marked a positive effect of wearing *niqab* on the speaker. For example, one participant declared that *niqab* has no influence of the speaker's voice. However, she might be encouraged as the *niqab* could cover her anxiety. She wrote:

> *Niqab has no negative impact on lowering or raising the voice, actually I believe it gives the speaker who wears it the confidence because it helps her hide some of the anxiety symptoms while giving presentations. (Participant 6-S)*

In the same vein, some participants expressed other effects of wearing niqab, which are unconnected to speech intelligibility. Some of these participants have self-reported shyness, lack of self-confidence, and hesitation as impacts. Psychologically, it is believed that the causes of these issues might be attributed to the influence of the social experiences. Whereas the perception of shyness is cultural, it is mostly

considered as a positive trait for females to possess in Muslim communities. (Heitz, 2019) Being overly familiar with wearing niqab, however, may cause trouble developing social skills. Therefore, it is recommended for female teachers and students to learn to cope with the situation and be more assertive. (ibid)

> *Niqab leads some students to feel shy and it makes them hesitate to participate and speak. In the lecture room, many of them set in the back to be invisible to the teacher. As a teacher in college of women, I ask my students to unveil their faces, but some of them said to me that they would not feel comfortable if they did.* *(Participant 1-T)*

Effective communication helps students learn easier, strengthens the relationship between the teacher and the students, and creates a positive atmosphere in the learning environment. Although it may seem that there is always communication between the learner and the educator, communication does not always occur (Diloyan, 2017). Apart from that, the findings of the study displayed how some participants perceived a shortcoming for communication while wearing *niqab*. Some participants asserted that not only the quality of articulation is affected but also the quality of interaction, which takes place between the teacher and the students or among students themselves. They expressed that communicating while seeing each other's face is smoother and more convenient. In *Communication in the Language Classroom,* Tony Lynch

presents the usual pattern of communication amongst the teacher and learner as a part of classroom interaction: the cycle of Initiation, Response, and Feedback. (Lynch, 1996) The teacher asks a question for example when students make responses by giving answers which initiates the cycle. Yet, for feedback that is more effective face-to-face communication is required. Because face-to-face communication between the teacher and the students helps, the students accept feedback as a normal and essential part of learning. (Lynch, 1996)

For instance, one student recorded that by:

> *Because of wearing niqab sometime, we face some difficulties inside the classroom such as hindering the communication. (Participant 5-S)*

The same idea is also identified by a teacher who wrote:

> *Also I think niqab may prevent the proper communication between the teacher and her students. (Participant 2-T)*

This finding relatively support the result of previous studies (e.g., Naeem and Iqbal, 2011; Sathik and Jonathan, 2013) which highlighted the significance of the technology of non-verbal communication to enhance the understanding of the students in the classroom and help to improve the teachers' role in promoting learning outcomes (Naeem & Iqbal, 2011). More specifically, the influence of face communication is so powerful in interaction where faces are rich in information about individual identity. Besides, they convey much about the mood and mental state and are considered as accessible windows into the mechanisms governing the individuals' emotions (Sathik & Jonathan, 2013).

Even though many classrooms are usually equipped with air conditioners, quite a few responses stated that it is not enough. Referring to the electricity continuous turnings off it is rather challenging for the teachers/students who wear niqab to feel comfortable. A study conducted by the National Bureau of Economic Research says that hotter classrooms make it harder for students to learn especially when classrooms do not have air conditioning (Levy, 2018). Students' capability to learn is challenged during too hot days and beyond their individuals' control. The study explains the performance gaps between students in poor regions and those in wealthier areas. It suggests that heat does not only affect the physical capabilities but also weakens the cognitive capacities. Another study conducted on one million high school students concluded, "Hot temperature during high-stakes exams exerts a causal and economically meaningful impact on student performance". (Park, 2018 p.3) Educational institutions all over the Yemen have been suffering from the regular electricity's cutting for years. The heat can lead students to feel uncomfortable and make it hard for them to settle. For females, it can be worse

since they are covering their faces inside the hot classroom. A number of participants expressed this notion in the following experts:

One of the challenges I face as a female student while wearing niqab is feeling uncomfortable. Sometimes I have headaches if I wore it too long especially during electricity cuts. (Participant 16-S)

With the high temperature in the summer, it becomes difficult to breathe with the niqab. The hot weather makes all students even males to be uncomfortable and unable to comprehend with ease. (Participant 18-S)

4.4   Audibility

While going through the responses of the participants, the census view of the most important compensating strategy was raising the voice. This finding revealed that teachers and students who wear *niqab* should raise up their voices so that it can be audible and loud enough to the entire perceivers inside the classroom. In addition, the participants suggested that they could try to speak at slower rate and make sure that words are accurately articulated. This has been indicated in the experts below:

One of the helpful things is raising up the voices to compensate covering the faces (Participant T-11)

The teachers can speak slower during explaining. Maybe if they spoke fast it would be difficult for

her students to understand how she articulates. (Participant 16-3)

It is common to hear requests to slow down when a spoken message fails. 75% of 50 non-native students at Iowa State University reported that they failed to understand English because the person spoke too fast. (Le, 2006) The speed of speech has been labeled as the "the greatest obstacle to understanding" (Flowerdew, 1994 p. 17).

Furthermore, the some responses suggested that classrooms should be equipped with good acoustic systems, especially when they are large and crowded. "Studies have shown that teacher and student working environments, associated behavior and management are related to acoustic quality, especially regarding inclusion" (Campbell, Vugts, Oorschot-Slaat, & Brokmann, 2018). Using microphones would assist the teacher or even the students to have their voices heard clearly. Microphones are also important for those who have natural quite voices and cannot raise their voices enough to be heard. Effective teaching and learning require the control of acoustics by managing sound levels and speech intelligibility (Campbell, et al., 2018). There is clear evidence that high quality acoustics solve or reduce the effect of problems such as having vocal disorders, ill health, or hearing damage (Oberdoster & Tiesler, 2006). The quotations below demonstrate the participants' views:

Using the microphone is one of the strategies that would fulfill the purpose. (Participant 16-S)

Equipping special classrooms with speakers and microphones to make comprehension easier and raising the voice for the students. (Participant 15-S)

4.5 Visual Aids and Body Language

The findings have stressed the vital importance of using audio-visual aids and body language inside the classroom. These visual aids, such as pictures, videos and data show, can highly assist the teacher and provide her with the support she needs. Some responses stated that using these aids should be necessary especially while teaching courses such as phonetics where students need to model the teacher's articulation. While body language (i.e., making eye contact, and using hand gestures) is still available to use by females who wear niqab even though their faces are covered. The following are some excerpts from the responses of the participants.

As a teacher, I use videos as a model that uses pictures that show how to articulate concepts each sounds. (Participant 4-T)

Using body language, videos, or pictures to facilitate the educational process and compensate the imperfection. (Participant 11-T)

The teacher should use visual aids, which help the students know the

articulatory organs, or play audio clips to show the correct pronunciation. (Participant 3-S)

Visual aids encourage students' learning process and make it easier and stimulating. They are the best tool that initiate, stimulate, support learning, and help the students disseminate knowledge. From pictures, slides, chart, videos, or real objects, the options are accessible and effective (Shabiralyan, Hasan, Hamad, & Iqbal, 2015). Research of Cuban (2001) indicated that "the psychology of visual aids as under, 1% of what is learned is from the sense of TASTE, 1.5% of what is learned is from the sense of TOUCH, 3.5% of what is learned is from the logic of SMELL, 11% of what is educated is from the logic of HEARING and 83% of what is learned is from the sense of SIGHT" (as cited in Shabiralyan et al 2015). It is also an important method for teachers to help their students by using body language as well as noticing the students' body language. Currently nonverbal communication is widely used by teachers to face the challenge of creating concise, comprehensive, and visual learning circumstances. Therefore, teachers should face the students' knowledge limitation with using body language reasonably while teaching to assist the oral one (Yang, 2017).

4.6 Classroom Management and Teaching Tools

A number of responses proposed some strategies that should maximize speech intelligibility and reduce the possible effects to the minimum. One of these

strategies is that the teacher can move around the class instead of standing in the front of the students. Participants believed that doing so would make the teacher closer to students especially those at the back of the class and this can make her speech more audible and intelligible. Likewise, the participants added the moving around the class could help the teacher to easily manage the class and make sure that the students are quite enough for her to be heard. This strategy is reported in the following excerpt:

> *The teacher should move inside the classroom in order to help the students to listen to her. (Participant 10-S)*

Teachers need to be aware of the many components involved in creating ideal classroom listening environments for their students. Therefore, teachers need to be able to endure the demands, pressures and challenges within the various circumstances of teaching (Gibbs, 2002 as cited in L'Allier & Piper, 2007). One of these demands is the classroom listening conditions which have "a significant effect on students' academic success because learning is highly dependent on clearly hearing the messages being communicated" (Rubin, Russell & Williams, 2011, p. 345)**.** When the teacher circulates around the room speaking, listening and participating in the discussions as students share what they know, they would hear their teacher better; feel they are important and that their teacher finds them interesting (L'Allier & Piper, 2007).

> *The teacher has to repeat the word many times and write down their transcriptions on the whiteboard to convey the correct pronunciation. The teacher should also use the whiteboard to demonstrate by drawing for example. (Participant 2-T)*

Another strategy that the participants mentioned is that the teacher should write the phonemic transcription of the new words on the board. Therefore, the students can easily find out the correct pronunciation in case they did not hear the teacher properly. Through transcription, students can improve their writing and reading skills by creating a written product in their classroom community. "Transcription is only one way to improve these students' abilities; it is, however, important to begin with this first step, a step that is often missing in the instruction of basic skills students". (Deem & Engel, 1988 p.99) The participants also suggested using the board to explain, summarize, or draw in order to clarify the content. In her book *Using the Board in the Language Classroom*, Dobbs (2002) points out that there are many advantages of using the board such as encouraging the students to remember what they hear. It also allows the teacher to explain and illustrate the information as well as it increases the students' interest about what they learn.

This finding is relatively consistent with the results set forth by Coniam (2005) that the students had adopted

certain compensatory strategies to counteract the constraints imposed by wearing the surgical mask including slower speaking rate, increased speaking volume, clearer articulation, enhanced use of body language, and more eye contact with the examiners.

5. CONCLUSION

In this study, EFL student teachers and students highlight their perceptions towards the effect of wearing *niqab* on their speech intelligibility. It appeared that most of the participants had showed a difficulty to identify a speech of a speaker wearing *niqab*. However, few other participants declared that the effect of *niqab* would be only on the quality of articulation. Therefore, it is recommended that female EFL teachers should be aware of how *niqab* could affect her own and her students' speech intelligibility and thus observe their own and their students' speech to understand which features of the sounds are affected. Furthermore, it was found that wearing *niqab* prevents students to recognize the speaker's facial expressions that could highly assist them in the interpretation of speech. Yet, few participants reported that *niqab* has no effect on speech intelligibility, and it might have a psychologically positive impact on the speaker herself. Additionally, the participants suggested some compensatory strategies that might enhance their speech intelligibility such as raising the speaker's voice, using visual aids and body language, and managing the classroom and apply alternative teaching tools. Therefore, female EFL teachers should consider

these suggestions during their teaching. They need to be able to use variant types of effective and interesting visual aids, which would help their students to recognize difficult or confusing words. Also, the courses such as phonetics and speaking, which depends on the students' modeling of the teacher's articulation should be taught by a male teacher in mixed classes and by a female teacher in female classes. Otherwise, if it is not possible, the teacher can still compensate by playing extra visual materials.

6. SUGGESTIONS FOR FURTHER RESEARCH

It should be noted here that this study has some limitations. Therefore, its findings are limited to the study context and might not be generalized to other contexts. First, it was limited to a specific context and conducted on a small number of participants in a public university in Yemen. Thus, for the purpose of comparing and contrasting the findings, a similar study is highly suggested to be conducted on other participants with bigger sample size at other universities in Yemen and neighboring countries. Second, this study was limited only to study the EFL teachers/students' perceptions towards the effect of wearing niqab on their speech intelligibility, therefore, future studies are recommended to examine the effect of other types of face-coverings such as; surgical masks on speech intelligibility. Third, this study adopted the survey design using a qualitative questionnaire to collect data, hence, it is extremely suggested to conduct a similar

study adopting more instruments and using different design to deeply investigate the phenomenon. Fourth, this study examined the effects of niqab on speech intelligibility exclusively, yet the results showed other effects that are worthy of discovering such as the psychological and physical effects. Despite these limitations, this study might provide some insights and useful suggestions for EFL teacher education programmers, directors of ministry of education and policy makers in Yemen and other countries with similar EFL context.

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