The Potential of Using Siri to Practice Pronunciation - A case study of EFL first year LMD students at Biskra University

امكانية استخدام المساعد الشخصي "Siri" لممارسة النطق من قبل طلاب اللغة الإنجليزية كلغة أجنبية بجامعة بسكرة

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Abstract

This paper is a part of a research project that tried to test the effectiveness of using Automatic Speech Recognition [ASR] technologies on EFL learners' pronunciation. Teaching pronunciation has shifted from using old traditional techniques that do not allow learners to know their strengths and weaknesses nor provide them with feedback, to more technological tools like Computer Assisted Pronunciation Technologies [CAPT]. Thus, this paper aimed to examine the potential of Apple's voice assistant Siri in enabling EFL learners to practice their pronunciation. For this purpose, a survey was conducted with ten EFL students at Biskra University to collect the data necessary for the selection of the sample. The latter included four participants who were guided to practice pronunciation while commanding Siri. The findings revealed that Siri is a great voice recognition tool that allowed learners to practice their pronunciation and correct their errors; it also helped them to get new information and complete tasks easily. Therefore, it is recommended as a complementary tool to develop EFL learners' pronunciation.

Keywords : Pronunciation; Automatic Speech Recognition; Computer Assisted Pronunciation Training; Siri; Virtual Personal Assistant

ملخص

الدراسة الحالية هي جزء من مشروع بحثي الذي حاول اختبار فعالية استخدام تقنيات التعرف التلقائي على الكلام من أجل تطوير نطق متعلمي اللغة الإنجليزية كلّغة أجنبية. لقد تغيرت أساليب تعليم النطق من استخدام أساليب تقليدية قديمة التي لا تسمح للمتعلم بمعرفة نقاط قوته وضعفه ولا تزوده بتقييم عام على كيفية النطق الى أدوات أكثر تقنية مثل تقنيات النطق بمساعدة الكمبيوتر. وبالتالي هدفت هذه الدراسة إلى إمكانية استخدام مساعد الصوت "Siri" في مساعدة متعلمي اللغة الانجليزية كلغة أجنبية في ممارسة النطق من خلال التواصل مع "Siri". لهذا الغرض، تم استجواب عشر طلبة لغة إنجليزية من جامعة بسكرة لجمع المعلومات اللازمة لاختيار العينة التي تضمنت أربعة مشاركين الذين تمرنوا على النطق عن طريق التحدث مع "Siri". كشفت النتائج أن المساعد الشخصي "Siri" هو وسيلة رائعة حيث سمحت للمتعلمين بممارسة نطقهم وقامت بتصحيح أخطائهم؛ كما ساعدتهم أيضا في الحصول على معلومات جديدة وإجراء مهام على أجهزتهم بكل سهولة. لذلك يوصى باستخدامها كأداة تكميلية من اجل تطوير نطق متعلمي اللغة الإنجليزية كلغة أجنبية.

الكلمات المفتاحية: النطق؛ التعرف التلقائي على الكلام؛ التدريب على النطق بمساعدة الكمبيوتر؛ مساعد شخصي افتراضي.

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Introduction

Learning a foreign language requires mastering a set of skills; however, pronunciation is that aspect that has not been given importance. Many scholars gave it a so-called name "Pronunciation is the "Cinderella" of language teaching" (Kelly,1969, p. 87). "Cinderella-Syndrome" was kept behind doors and out of sight (Celce-Murcia et al. 1996; Krashen, 1979). Although pronunciation is a key to successful communication, teachers often neglected it and only relied on drills or controlled production activities that they believed were enough to fulfill learners' communicative needs. However, Fraser (2006) insisted that a speaker is intelligible if he has good pronunciation even if he commits errors in other areas like vocabulary, grammar, and pragmatics. Having a poor pronunciation may cause misunderstandings even though the speaker is accurate in other areas. Hence, Thornbury (2006) emphasized that "Faulty pronunciation is one of the most common causes of misunderstanding" (p. 185). In light of this, the goal of pronunciation teaching is not to acquire a native-like pronunciation but to have an intelligible pronunciation and produce a comprehensible speech (Jenkins, 2000; Gilakjani, 2012). Thus, this paper sought to evaluate to what extent the new Automatic Speech Recognition [ASR] technologies can help EFL learners to practice and improve their pronunciation. Besides, it checked whether Siri has the potential to understand learners' utterances and perform their commands without facing any difficulties.

1. Pronunciation Teaching and Technology

Pronunciation is not merely a set of rules and sounds that can be acquired through drills tasks and repetitions, rather it is much more than that. Foreign language learners need not only to know the different segmental sounds and syllables and when stress takes place, rather they need to know how to use these sounds and apply the rules. Hence, learners still need to know how to produce the different sounds and control their speech, practice the language, and receive feedback (McCrocklin, 2014). Pronunciation is a skill that requires full attention and dedication and more time to be practiced. McCrocklin (2014) suggested that ASR technologies may be used as an effective tool inside the classroom to teach pronunciation as they allow teachers to control the learning process, provide an authentic input, and give effective feedback. The growing emergence of new technologies like Computer Assisted Language Learning [CALL] and Computer Assisted Pronunciation Training [CAPT] can be used for that purpose. The latter makes it possible to learn the language in a private, stress-free environment that provides unlimited types of authentic input to model correct pronunciation, monitor and evaluate learners' progress, address individual problems, and allow users to receive immediate feedback (Goodwin-Jones, 2009; Pennington, 1996). Hence, many technological tools are available nowadays and have the potential to help learners practice different aspects of pronunciation.

2. Automatic Speech Recognition [ASR] and Pronunciation

CALL and CAPT are high-technological systems that enable learners to learn different aspects of the language, but they still lack the option to provide effective feedback unlike ASR technologies (Levis, 2007). Automatic Speech Recognition [ASR] technologies can understand, interpret, and analyze human language. Levis and Suvorov (2014) define ASR as

"an independent machine-based process of decoding and transcribing oral speech. A typical ASR system receives acoustic input from the speaker through a microphone, analyzes it using some pattern, model, or algorithm, and produces an output usually in the form of a text" (p. 1). ASR technologies have the potential to provide input, receive output, identify pronunciation problems, and give accurate feedback to learners (Cucchiarini et al., 2000). In addition, McCrocklin (2014, 2015) adds that ASR is a technological tool that enables learners to practice the language at their own pace. Hence, learners who know how to use ASR technologies possess high self-efficacy and can learn autonomously.

3. Siri: Definition, Functions, and Usage

The immense growth in computer science has changed many aspects of life. It has impacted human life dramatically and led to reshaping the relationship between humans and machines. Artificial Intelligence [AI] is a term that was first coined back by John McCarthy in 1956 and defined as the science of making intelligent machines. Peart (2018) highlighted it by saying "Fueled by interacting with the likes of Siri and Alexa, it is no surprise that Gartner predicts that by 2020, customers will manage 85% of their relationship with an enterprise without interacting with a human". It is the case today as digital assistants such as Alexa, Siri, and Cortana are rapidly taking over human life. These assistants enable people to communicate with their smartphones, cars, and other devices to play music or provide information. Thus, Siri is like any other digital assistant; it is a speech-enabled integrated artificial intelligence [AI] technology. (Brill et al., 2019). Siri is an artificial intelligence speech recognition software that was developed by Dag Kittlaus and his team of Stanford Research Institute [SRI International] as an iPhone app that was bought by Apple in 2010 (Molden, 2015). It is defined as an Intelligent Personal Assistant [IPA] that helps users perform personal tasks on their Apple IOS products (Apple Support, 2020). Besides, Hauswald et al. (2015) clarified that this VPA "uses inputs such as user's voice, vision (image), and contextual information to assist users by answering a question in natural language, making recommendations, and performing actions" (p. 223). Based on that, this study aimed at discovering the effectiveness of using Siri as a tool to practice pronunciation. It meets all of the criteria of what an ASR-based CAPT system does and it can perform different commands through understanding and interpreting human language. However, Siri is only a VPA which is not designed for education. It does understand and analyze the language but does not point out learners' errors explicitly as Kawai and Hirose (2000) asserted "every pronunciation CALL system should explain to the learner (a) what his mistake was, (b) the severity of the error, and (c) how to correct his mistake" (p. 142). Although Siri does not provide any kind of feedback, Molden (2015) argued that when the speaker fails in providing correct spelling, Siri asks for repetition which is considered as a form of self-correction. It provokes the user to realize their error and correct it.

Bonneau et al. (2018) and Reehal (2016) identified the different phases that allow a VPA such as Siri to process natural language. The first phase is voice recognition known as Speech-to-Text (STT). Any VPA can recognize human speech unless the input is incorrectly articulated, which may cause it to fail in understanding or doing any task. The second phase is known as syntax and semantic processing in which the VPA identifies the structure of the input and tries to look for a partial representation of the meaning of the sentence. Later on, the

VPA goes through the third phase to answer the question asked by the user in an oral and written form by searching and formulating a correct answer. Speech synthesis is the final task yet is the most complex during which the VPA models linguistic concepts and then gives instruction to the other apps to perform the commands.

In addition, McCrocklin (2015) insisted that talking to Siri is like having a conversation with a real person. Its speech recognition level is fairly high and feels more natural than any other VPA. Siri currently supports 21 languages in 36 countries and supports dozens of dialects such as English (American, British, and Australian), French (Canadian), Arabic, Spanish, German, Italian, Japanese, Korean, Mandarin, Finnish, Hebrew, Russian, Turkish. (Apple Support, January 2020). Thus, Siri allows users to use their preferred language while communicating with it.

4. Related Works

Research projects under the realm of ASR-based systems used to teach and improve learners' pronunciation are few due to unknown reasons. Few studies tested Siri's potential as a means to practice pronunciation. Molden (2015) presented at Hawaï TESOL a research paper that reported a preliminary study that aimed at using Siri with Arabic speakers to practice pronunciation. The researcher tried to uncover Siri's positive affordances for language learning, its corrective feedback, and interpretation of speech. This study used two participants, a 26-year-old man with an upper-intermediate level of English and a 24-year-old woman with a low intermediate level of English. The participants participated in a set of activities to practice different sounds and aspects of English pronunciation where the researcher tested the possible breakdowns that may occur due to learners' pronunciation deficits or technology limitations. The findings of the study revealed that Siri has positive and negative affordances. Molden (2015) insisted that Siri was never designed to be used as a language learning tool, but it can help learners practice different aspects of their pronunciation; however, limitations of the study unveiled that Siri does not have an explicit form of feedback and it only provides feedback based on the user's intelligibility. In addition, it is only compatible with the latest devices of Apple that learners may not possess.

On the other hand, Gonzàlez (2012) reviewed some Apple iPhone Apps that can help learners improve their English pronunciation autonomy. The apps that were analyzed are: English File Pronunciation, Phonetic Focus, Enunciation, Clear Speech, and Pronunciation Power. All these apps are compatible with Apple iPhone devices. The researcher confirmed that these iPhone apps have the power to improve certain aspects of pronunciation.

In a similar study, McCrocklin (2015) explored the possibility of using ASR technologies such as Siri, Google Voice Search, and Windows Speech Recognition in the pronunciation class to foster learners' autonomy and supplement coursework. Furthermore, McCrocklin (2015) provided her thoughts and ideas on how to utilize these ASR technology systems and guide students to work on the challenges that may face them. In the end, she declared that ASR technologies can be powerful tools to foster learners' pronunciation, get feedback, and enable them to work on their pronunciation autonomously.

5. Research Method

This study aimed at determining the potential of the virtual personal assistant [VPA] Siri in helping EFL students practice their English pronunciation. To assess the effectiveness

of Siri, this study was run in two stages: the first stage consisted of an online survey, which entailed questions about Siri while the second stage was a guided practice that four students took part in. The practice covered some statements and commands that students uttered to Siri and based on them we tested both Siri and students' performance in terms of voice recognition and pronunciation.

6. Participants

To test the effectiveness of using Siri as a tool to practice pronunciation, ten first-year English learners at Mohamed Khider Biskra University participated in the online survey (only those who own an iPhone device). Later on, a sample of four students was chosen based on their willingness to participate in the second stage of the study. The reason behind this selection was to discover the ability of both Siri and learners to communicate with each other without facing any obstacles.

7. Data Gathering Tools

The data were collected through two main instruments: the first one was an online survey (see appendix. A) designed on an online platform known as "SurveyMonkey" which is a website that allows users to create surveys, share them, and collect answers. This survey involved seven multi-choice questions that inquired learners' familiarity with Siri. It was shared on a first-year students' platform (a Facebook group). Then, the second instrument was a guided practice that was printed and given to the participants (see Appendix. B). The practice sheet contained some frequent statements and commands that require Siri to perform some kind of action e.g. Open Camera. In this process, students were recorded while they were giving these commands to Siri to practice their pronunciation. Afterwards, these recordings were transcribed for the sake of identifying the participants' pronunciation errors, and allowing the researcher to check whether Siri understands their commands. This helped in defining the issues and breakdowns that occurred and the reasons behind them.

8. Research Questions

This study aimed at finding answers to the following questions:

Main Question: To what extent can Siri help learners practice their pronunciation?

Sub-Questions:

1. Can Siri understand learners' pronunciation even when they commit errors?
2. Do learners like practicing pronunciation using Siri?
3. Can Siri be used by teachers to facilitate practicing pronunciation?

9. Analysis of the Findings

To discover the potential of Siri in helping learners practice their pronunciation, learners took part in an online survey and then participated in a guided practice using their iPhones. The results of the survey and the practice are presented below.

9.1. Survey Analysis

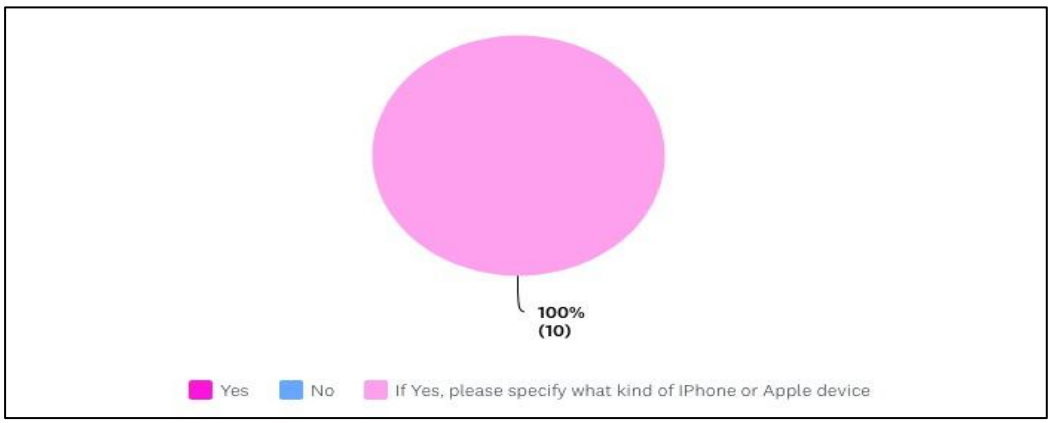
This section analyses participants' answers to the survey. At first, students were asked about Siri and if they know the kind of functions it provides. Their answers are displayed in table (1).

Table 1. Learners' definitions of Siri

Respondent	Answer
Participant 1	A voice that helps us to use the iPhone.
Participants 2 and 10	Siri is a computer voice control application that understands verbal instructions given by users.
Participants 3 and 8	Siri is a computer voice control application that understands verbal instructions given by users and responds to their requests.
Participants 4 and 9	An application on the iPhone.
Participants 5, 6 and 7	Application.

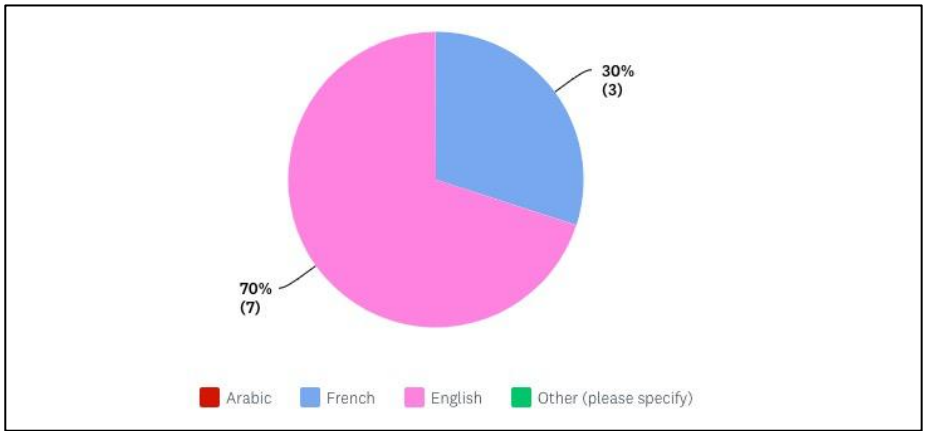
All the participants revealed that they own an Apple device (100%) they possess: iPhone 8 plus, iPhone X, iPhone XR, and iPhone 11. All of these devices support the latest IOS version which means that Siri works perfectly on them.

Figure 1. Number of iPhone owners



Additionally, the survey contained a question about whether the students ever tried communicating with Siri. The majority of the participants highlighted that they are frequent users of the virtual assistant. Two of them emphasized that they use it to call someone or send a message while others (8) said that they use it to search for some kind of information or command Siri to perform a command. Besides, participants were asked in what specific language they use Siri. The majority of participants (7) who are EFL learners confirmed that they set the language to English while talking to Siri while the other participants (3) said that they use French.

Figure 2. Siri's language on students' iPhones



Furthermore, participants were asked whether Siri understands their speech while communicating with it, almost all of them (8) replied with "Yes" except two participants who believed that Siri failed to understand their commands and they emphasized that their pronunciation was the reason behind it. They responded positively to the last question of the survey which was about their opinions on using Siri as a tool to practice their pronunciation. In brief, this survey was used as a tool to randomly select some EFL students who own an Apple device and can take part in the study. Later on, four (04) students were selected to participate in the practice. Additional background information about participants was not collected because their role in the study was only to communicate with Siri through input provided by the researcher.

9.2. Evaluation of the Practice

The participants recorded themselves conversing with Siri and then Air-dropped the videos. AirDrop is a service available on Apple devices that allow users to share and receive photos, videos, and documents with other Apple devices that are nearby (Apple Support Inc.). After that, we assessed the videos sent by the participants to determine if Siri has the potential to recognize students' speech, understand it, and interpret it correctly. The analysis focused on scoring the learners' performance and analyzing how well Siri could perceive what they were saying. As it was highlighted before, Siri is a virtual personal assistant and it was not designed as an educational tool since it does not provide any kind of feedback. Thus, receiving feedback is a crucial step that allows students to identify their pronunciation errors (Hincks, 2003). Siri provides a kind of implicit feedback. When it fails in understanding the user's speech, it urges the user to repeat their speech. In other cases, it fails to interpret the user's speech by spelling words incorrectly or inserting words that the user did not intend to say.

Table (2) illustrates the interaction between the participants and Siri. The statements that the learners uttered to Siri, the phonetic transcription of what has been said, how Siri responded to each statement.

Table 2. The Statements uttered per user, the phonetic transcription, and the responses provided by Siri.

User	Statement	Transcription	Siri's Response
Student 1	Tell me a joke	/ tɛl mi ə ʤoʊk /	What did the baby mosquito say after its first flight? "Mama, everyone was clapping for me."
	When is my birthday?	/ wɛn ɪz maɪ ˈbɜrθdeɪ /	Your birthday is on February 7, 2002.
	How is the weather?	/ haʊ ɪz ðə wɛðər /	The high will be 43 C and the low will be 33.
	Open Camera	/ oʊpən ˈkæmərə /	Opening Camera …
Student 2	What day is this?	/ wʌt deɪ ɪz ðɪs /	It's Sunday, June 27, 2021
	What does Ironic mean?	/ wʌt dʌz aɪrɑnɪk miːn /	Ironic means … (Provides definition from the dictionary)
	wake me up at 7	/ weɪk mi ʌp æt ˈsɛvən /	I set your alarm for 7 AM.
Student 3	How far is America?	/ haʊ fɑr ɪz əmɛrɪkə /	It's about 7,123 kilometers as the crow flies.
	What is the capital of Denmark?	/ wʌt ɪz ðə kæpɪtəl ʌv dɛnɪmɑrk /	Copenhagen is the capital of Denmark.
	Play "Hello by Adele"	/ pleɪ hɛˈloʊ baɪ əˈdɛl /	Playing Hello by Adele from your music library.
Student 4	Tell me a joke	/ tɛl miː ə ʤəʊk /	Where do boats go when they feel sick? To the dock.
	What is the capital of Denmark?	/wɒt ɪz ðə ˈkæpɪtl ɒv ˈdæni mɑːk /	I found this on the web. (provided info about Danny Mac)
	How do you say Thank you in Mandarin?	/ haʊ du ju seɪ θæŋk ju ɪn mændərən /	In Mandarin Chinese, thank you is: 谢谢 (xiè xiè)
	Suggest a movie for tonight	/ səˈʤɛst səˈʤɛst /	I did not get that. Could you try again?

Siri has a great potential in recognizing and understanding human speech. Table (2) shows that it understood the majority of what students were saying immediately even when they made spelling mistakes and errors in pronunciation. It speculates the words based on the context rather than the speaker's sounds even when they do not sound like the standard pronunciation. Some screenshots taken from students' interactions with Siri are presented in Appendix C.

All students succeeded in transmitting their message to Siri and the latter succeeded in transcribing their requests correctly. However, some tasks were failed since these students' native language is Arabic and some of their native sounds may interfere and create problems. Thus, it failed to understand some commands due to spelling mistakes and slight errors in pronunciation.

Example 1. "Asking Siri about the capital of Denmark"

- Student 4 intended to say "what is the capital of Denmark?", however, Siri transcribed it as "what is the capital of Danny Mac?" This is a spelling mistake that the student did not intend to make, thus Siri failed to transcribe it correctly as shown in table (2).
- This is another example concerning the same question but, in this case, there was a pronunciation error committed by the student. The word Denmark is pronounced /ˈdɛnmɑːk/ but the student mispronounced it saying /ˈdɛnɪmɑːk/ where the student added the sound /ɪ/. Although the student mispronounced a sound, Siri transcribed it correctly.

Example 2. "Suggest a movie for tonight"

Siri transcribes the words quickly as if it is communicating with a native speaker. The speech of non-native differs substantially from the speech of native speakers at both segmental and suprasegmental levels, especially the rate of speaking. Natives speak at a rapid pace in comparison to non-natives who may speak a little bit slower so their speech can be understood. In addition, Siri is not accurate in transcribing the speech of non-native speakers which in this case led the student to repeat the command because it transcribed the speech rapidly that the learner could not keep up.

- The student intended to say: "suggest a movie" and because they faced difficulty in saying the word "suggest" because they thought they pronounced it in a wrong way. This urged them to repeat it which made Siri transcribe it twice, and failed to recognize the command. Then, the student re-launched Siri and repeated the command another time.

After the practice with Siri, the researcher asked the students about their experience using Siri. All their replies were very positive and they were amazed of the great functions allowed by Siri. Additionally, they stated that they rarely use it even though they own an iPhone. This experience motivated them to use it more often to accomplish tasks easily as well as to promote their pronunciation.

10. Discussion of the Findings

Based on the evaluation throughout the whole communication between Siri and the students, we noticed that it has many advantages. First, it possesses a high level of voice recognition and intelligibility that allows its users to hold a natural conversation. Adam cheer,

founder of Siri, emphasized that during the process of designing Siri, they wanted to create a system that has domain knowledge. It has the potential to know the subject area the user is speaking about. They designed Siri so it can communicate with humans as well as the built-in apps on any Apple device. Hence, Siri is seen as a highly developed technology in comparison with its competitors VA that are available on the market (eg. Cortana, Google Now). This kind of technology was designed for daily usage, to help humans communicate with their devices to accomplish different tasks which means that it was never intended to be used for educational purposes. However, teachers can incorporate it into their classroom with taking into consideration that it may have either positive or negative affordances. Derwing and Munro (2015) spoke of technology "As has been reiterated many times in the CALL [computer-assisted language learning] literature, technology cannot replace teachers, nor is it necessarily better than, or even as good as, traditional instructional methods" (p.130). Further, Siri is not designed to give implicit feedback but it provides information that provokes students to repeat their utterances until achieving an understandable pronunciation. Apple claimed that Siri's performance improves with time and frequent usage, stating "as it gets used to the accent and other characteristics of the users' voice". Hence, Siri accommodates with the learners' voice, their accent, and their way of speaking which allows a seamless conversation to occur.

Conclusion

Finally, this study has introduced a neglected technological tool by both teachers and learners. Apple's virtual assistant Siri has the potential to provide an easy and realistic way to help students foster their pronunciation and feel more autonomous in practicing the spoken language. Besides, students were amazed by this technology as it exposed them to new functions that make fulfilling daily tasks easier and even helps them in their education. Siri can be used as an additional practice to enable learners to hold a natural conversation as if they were communicating with a native speaker. However, before incorporating it into the classroom, teachers must first receive training on the usage of this technology. Further, they need to check the availability of Apple devices among their students since iPhone devices are highly sophisticated in comparison to Android devices. Thus, future research can incorporate a larger sample and focus on other aspects of pronunciation.

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Appendix A: Online Survey

The Effectiveness of Using Siri to Practice Pronunciation - EFL students case

The Effectiveness of Using Siri to Practice Pronunciation

EFL learners often recognize a need to work on their pronunciation. This goal is possible thanks to developments in ASR technologies that allow learners to empower their pronunciation. Hence, this survey is dedicated to select EFL learners that can take part in a small study that seeks to determine if Siri is useful to enable EFL learners practice their pronunciation.

1. Do you own an IPhone or any Apple device?

- ◯ Yes
- ◯ No
- ◯ If Yes, please specify what kind of IPhone or Apple device

2. Do you know what is Siri?

- ◯ Yes
- ◯ No
- ◯ If Yes, can you tell what do you know about Siri?

3. Since you own an Iphone, have you ever tried communicating with Siri?

- ◯ Yes
- ◯ No
- ◯ if Yes, what kind of conversation did you have with Siri?

4. What language Siri is set to on your phone?

- ◯ Arabic
- ◯ French
- ◯ English
- ◯ Other (please specify)

5. When communicating with Siri, did it understand what you were saying or commanding it to do?

- ◯ Yes
- ◯ No
- ◯ If No, what do you think was the reason?

6. Do think that conversing with Siri in English can help you improve your pronunciation skills?

- ◯ Yes
- ◯ No
- ◯ if No, please specify why?

7. Are you willing to take part in our study and experience a new way of communicating with Siri using your own device?

- ◯ Yes
- ◯ No
- ◯ if Yes, please send a private message

Appendix B: Siri Practice

Part One: "Communicating with Siri"

Task: Say these following statements to Siri

1. Hey Siri, tell me a joke.
2. Hey Siri, when is my birthday?
3. Hey Siri, what day is this?
4. Hey Siri, how is the weather for tomorrow?
5. Hey Siri, what does "Ironic" mean?
6. Hey Siri, what is the capital of Denmark?
7. Hey Siri, how far is America?
8. Hey Siri, how do you say "Thank you" in Mandarin?
9. Hey Siri, how many days until Independence Day?

Part Two: "Giving Siri Commands"

Task: Command Siri to perform the following tasks

1. Hey Siri, open Camera/Camera roll
2. Hey Siri, read my last message.
3. Hey Siri, wake me up at 7 am.
4. Hey Siri, call my mother.
5. Hey Siri, send a message to my father "Hey"
6. Hey Siri, set a timer for 20 minutes.
7. Hey Siri, turn on flashlight.
8. Hey Siri, suggest a movie for tonight.
9. Hey Siri, play "Hello" by Adele.

Appendix C: Screenshots taken from Students' interactions with Siri