English teachers' perceptions of text to speech software and Google site in an EFL Classroom: What English teachers really think and know

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ABSTRACT

21st-century learning may help teachers in getting various listening materials easily.Even though it is easy to get listening materials,there is no guarantee that every listening material will meet students' needs or learning objective. One possible solution that can be used is by having Text to Speech program as a tool for creating listening materials. As such, this study aims to investigate EFL teachers' perceptions toward the use of Text to Speech program in creating listening materials by using TPACK (Technological, Pedagogical, Content, Knowledge) model by involving Google Site as the media to deliver the listening material. Since not all listening material is appropriate with students' needs and learning condition, Text to Speech could be considered as the solution for this problem. This study made use of qualitative method with individual interview technique to answer the research questions formulated. There were eight EFL teachers who served as the participants of this research. Several steps were done in order to gain teachers' perceptions towards the use of Text to Speech in creating listening materials. First, a computer training was done in order to make EFL teachers familiar with the Text to Speech program; second, the listening material produced by teachers was uploaded in Google site to be delivered to students, after that teachers tried the prepared listening material and Google site feature; next, the interviews were done to gain EFL teachers' perceptions towards Text to Speech program and Google site. The findings show that EFL teachers give positive responses toward the integration of Text to Speech program by using TPACK model. EFL teachers found it useful to use this digital approach in the language learning process.

Keywords: *Listening materials; Text to Speech Program; English as Foreign Language; EFL teachers' perceptions; TPACK model*

INTRODUCTION

As a result of the information, communication, and technology development, it is easy for EFL teachers to obtain listening material from online sources. Many listening sources can be used such as native-like listening materials to encourage the appropriate model for language use. Online sources such as British Broadcasting Company (BBC), British Council, Central News Network (CNN) and other similar websites may help students in getting authentic learning materials and direct them to real examples of spoken English. These native like sources are the best model to be used in teaching listening to students (Mulyono andVebriyanti, 2016).

Even though it is easy to get the listening materials, the validity of the material itself could be a problem that will be faced by students, that is, the listening material may lack universal validity and students experience (Mulyono &Vebriyanti, 2016). The use of audio materials may not be suitable for different classroom procedures, as no evidencecould show that listening materials could be used in every situation (Sha, 2010). The validity of the material is important to be concerned since students have their characteristics that should be linked with the listening materials prepared by teachers. If teachers prepare listening materials which are not appropriate with students' listening skills, it may make students fail to follow the learning process. Besides, there are still other problems due to lack experience of students in exposing themselves to native-

like listening materials. They may find it difficult to comprehend the listening material due to the limited number of native-like listening materials treatment (Chang andRead, 2006).

Teachers in Indonesia tend to avoid having listening activities in the class because of their dependency on the online listening material (Adnan, 2012). They may not find the suitable material, so they avoid the listening section. This dependency leads teachers to face another problem such as the technical problems that deal with the facilities and services provided by the school (Mulyono&Vebriyanti, 2016), even though the Indonesian government has provided strong support for technology integration at schools (Firman and Tola, 2008), many English teachers are still restricted to have access to the Internet (Son, Robb, and Charismiadji, 2011). Meanwhile, it was proven that integrating technology is beneficial for language learning (Dashtestani, 2012).

Text to Speech has already been considered as a potential tool to be used in language learning. TTS was used in several pieces of research such as researches on reading (Stoddena, Robertsa, Takahashia, Parka, Norma, 2012), and pronunciation (Huang and Liao, 2015). Moreover, TTS is seen as the solution for the lack of listening materials spoken by native speakers. The TTS program is considered as beneficial for EFL teachers who help them in adapting the native speaker voice to contextualize listening materials and fit the students' English proficiency (Sha, 2010). Besides, The TTS program may benefit students' regarding pronunciation model, reading assistant, and conversational partner (Handley and Hamel, 2005).

In integrating TTS during the learning process, the TPACK model could be used by the teachers in delivering the listening material. TPACK stands for technological, pedagogical, and content knowledge. TPACK means integration of teachers' knowledge related to content, pedagogy and integrated with technology (Chen, Jangt, and Chen, 2014). TPACK model has already been used in teaching and learning and was confirmed that it could be effectively used in the language learning process(Tai, Pan, andLee, 2015). However, there are still few studies that explore the use of integrating TTS and TPACK model, particularly the benefits that may be gained by teachers from the program. Hence, the present study attempts to find out teachers' perceptions toward the use of TTS program in creating native-like listening materials.

TEXT TO SPEECH APPLICATION IN EFL CLASSROOM

Text to speech seems to get attention for recent years. Several studies have been conducted related to the use of Text to Speech in English language learning. A study about listening and Text to Speech done by (Ming Kuang and Young, as cited inSha, 2010) shows that Several studies related to the use of Text to Speech in EFL classroom indicate that the programcould be used to benefit language learning. TTS provides three conditions that make the output possible to be used as listening materials: the appropriate pronunciationmodel, the communicative expressions thatpromote natural dialogue, and the practicalbenefits(Mulyono and Vebriyanti, 2016). A study done by Damper et al (1999) showed that 72% English words can be pronounced correctly by TTS, but unfortunately when good pronunciation criteria are applied, the accuracy becomes lower 25,7% of words are pronounced correctly.

TTS has taken significant attention from many researchers that trigger them to develop expressive and emotive output (Schroder, 2009). The quality of output voice from TTS is considered as an outstanding voice since it uses the real voice from the provided speakers in the program. Moreover, TTS has included emotive and expressive sounds (Harashima, 2006). Handley's (2009) study shows that the accuracy and naturalness of the voice in TTS applications were positive at the level of phonetic pronunciation. On the other hand, Handley (2009) reveals that such a measure does not affect the prosodic aspect, and the quality of the phonetic pronunciation was indeed found to be higher than that of the prosodic.

Furthermore, TTS application in the EFL classroom is mainly driven by its practicalbenefits. Sha (2010) states that there are considerable practical reasons forutilizing TTS in the development of listening materials: flexibility andadaptability of thetechnology, adjustable voice speed, availability of numerous speakers, ease of distribution,and greater cost-effectiveness than traditional speech recording. These practical benefitsfacilitate teachers in a number of ways. First,flexibility andadaptability application allows teachers to promote syllabus demand and the pupils' daily context in the listening comprehension classroom. Second, the speech rate modification is believed to meet students' needs. Third, the audio is easy to keep and can be used anytime teachers need them.

Native-like Listening Materials

There are already many discussion in literature related to the terms of Native Speaker (NS) such as in Davies, 1991; Jourdain, 2000; Medgyes, 1992, as cited in Mulyono and Vebriyanti, 2016). Lee (2005) found six features that may lead to what actually NS is, including acquiring the language in early childhood and continued use of the language, knowledge of the language, communicative competence and the ability to use it naturally in varied social settings. The native speaker refers to someone who can communicate the language in a manner, "though error-free, yet has qualities which native speakers frequently raise at least doubts whether it is native or non-native in origin" (Ringbom, 1993, p. 5, as cited in Jourdain, 2000).

Two traits in the present study define NLS competence. Native-like speaker definition takes a specifically limited account of the speaker's ability to pronounce English words "without any noticeable accent" (Hyltenstam, 1988, p.70, as cited in Mulyono and Vebryanti, 2016). Meanwhile, in the present study, the Native-like speaker referred to a machine (computer application) that may utter or produce English words: teachers can use TTS program for creating a native-like voice form input text, then the output can be used as a learning material.

NS and non-NS teachers, in EFL classroom though different, both contribute to the success of students' learning (Medgyes, 1992). According to Mulyono and Vebriyanti (2016), the native-like speaker materials in current study joins the value of Native Speaker teacher in encountering common classroom issues. It is believed that the use of Native-like listening materials which encourage the use of native American and British speaker accents can promote students' learning motivation and the authenticity of the language itself (Major, Fitzmaurice, Bunta, and Balasubramanian, 2002).

Technology, Pedagogical, Content, Knowledge (TPACK)

Technology, Pedagogical, Content, Knowledge (TPACK) was introduced by Matthew J. Koehler and Punya Mishra in 2006. TPACK relates to the types of knowledge which should be possessed by teachers in order to integrate language learning process and technology. The framework of TPACK focuses on connecting teachers' understanding toward content, pedagogy, and technology and how they link to each other in order to produce effective teaching (Koehler et al., 2014). Although TPACK is categorized as a new framework in the educational area, it already influences theory, research, and practice, in teacher education and their professional development.

TPACK model suggests teachers have a deep understanding about technology, content, pedagogy, knowledge, in order to make the integration of those items with teaching and learning process effective (Koehler et al., 2014). TPACK is not only about integrating technology during the learning process; teachers have to be able to make the teaching and learning process be better due to its integration. TPACK should be a base for teachers to be able to link the

technology integration and produce the transformation of content and pedagogy (Koehler et al., 2014).

METHODOLOGY

Research Design

The present study used a qualitative method with the narrative, qualitative design. The narrative qualitative design was adopted as it promoted more comprehensive opportunity for teachers to gain knowledge through their teaching experience (Xu and Connelly, 2009). In this qualitative design, before having interviewsessions, teachers were given the training to use TTS in developing the listening material and Google Sites to deliver the listening materials.Teachers were interviewed in order to gain their perceptions towards integrating TTS and Google sites at the end of the listening sessions.

Participants

Participants of this research were EFL teachers from private English course. They graduated froma State University in Jambi Province and continued their Master's degree in their previous university. They had similar computer skills as well. They are able to use Microsoft office and able to browse pages online. They were able to find listening materials from online sources.

Instrumentation

A semi-structured interview was conducted in order to get the data for the analysis. The interviews were done to explore teachers' experiences towards the use of TTS and Google site in developing native-like listening materials. The interview questions were developed based on criteria in creating listening materials developed by Tomlinson (1998), Nation & Newton (2009). Specifically, the questions investigate the benefit of using Text to Speech program and Google site and the limitations of TTS and Google site when the prepared listening materials were applied.

Data Analysis and Procedure

The study was conducted in a private English course. First, computer training was done in order to help teachers be familiar with TTS and Google site. After several meetings, teachers were asked to make their own listening materials and upload them to the Google site. Then, teachers delivered the prepared listening materials to students. Finally, interviews were done after several meetings using TTS listening materials. Content analysis and descriptive analysis were used to analyze the interview result.In analyzing and interpreting the interview result from participants, the researcher used the criteria proposed by Tomlison in 1998, Nunan in 1992, Graves in 2000, Crawford in 2002, and Nation and Newton in 2009 which are related to the criteria in developing learning material.

Findings and Discussion

Most of the teachers responded positively toward the integration of ICT in English language learning. They stated that the integration of Text to Speech and Google site helped them in preparing materials to be delivered in the classroom. Text to Speech and Google Site are considered as accessible and accessible programs to be used as the language teaching and learning.

> *"I think TTS will help me prepare listening materials because it's quite accessible for both teachers and learners. Not to mention, we can evaluate the material we have given to our students"* - Teacher A-

> *"Google Site is an excellent aid in assisting the teacher in delivering materials. It can be an effective means to present the material, submit tasks, and provide feedback for both teacher and learners. The layout is clean, minimalist, and pretty handy so basically, everyone can use it"* -Teacher A-

> *"This is the first time for me to use Google site and it is interesting. It is a good way of delivering materials, especially in an online platform. It is easy to be used and I can create my own online class by using Google site. I can include my learning objective and also the material there, even I can create a good visual for a web-like. Additionally, it can be accessed whenever and wherever by my students, so distance won't be a problem anymore"* –Teacher D-

EFL teachers also confirm that TTS may help their students in improving their listening comprehension skills since TTS and Google site are easy to be accessed, so students may have more time to learn English independently. Additionally, by integrating ICT during the learning process, they think that it can boost students' enthusiasm towards the given lesson.

> *"I think the students will benefit in a way that they can have access to the materials and train themselves independently. Moreover, integrating this kind of ICT form in learning may boost their enthusiasm regarding the lesson given"* –Teacher B-

> *"The audio is a native-like listening material, so by using TTS I can help my students to be familiar with standard spoken English, then I think it can help them in improving their listening skills"*-Teacher D-

Regarding the output of the TTS program, most of EFL teachers said that it could be used for teaching listening comprehension. The output is already like the ones that can be produced by native speakers, especially the pronunciation of every single word. Teachers may choose the speakers, even they may choose the spoken English dialect that may lead to the various types of audio or output.

> *"Regarding pronunciation, the output produced by TTS is already, and the audio is also clear"* –Teacher A-

> *"Anyone can choose what accent he or she wants to have from this application so that he or she can have the native ones as well"* –Teacher C-

Besides, they also mentioned that the output of the TTS program corresponded to the classroom needs. TTS lets them create listening materials which are appropriate with the learning syllabus including its competencies and objectives.

> *"I can create my material which could be appropriate to the syllabus"*-Teacher F-

Moreover, the output of TTS leads teachers and students to get the appropriate pronunciation. Teachers also stated that TTS output appropriate to students' English proficiency and their daily-life situations.

> *"It is the first time for me to use this program, and it is beneficial. It helps me in preparing listening materials, and I also can make it based on the syllabus and my students' English competence, it is also easy to be used"–Teacher C-*

Furthermore, while using TTS in creating listening materials and deliver them using Google site, EFL teachers also found some weaknesses that may be considered as problems in integrating TTS and Google site in the learning process. The first weakness of TTS relates to the output producing system since teachers need to get right pronunciation, some typographical errors might also be a problem because TTS only converts words to sound without any confirmation whether the typed word is correct or not. Besides, for several texts such as narrative text or conversation text, TTS cannot produce an excellent intonation to be considered as natural output for listening comprehension. Additionally, TTS cannot produce the appropriate tone for some punctuations such as question mark. These weaknesses make the output of TTS less attractive because the tone is not varied.

> *"Although TTS output is already spoken by a native speaker, and already native like the listening product but sometimes for several kinds of text, it is a little bit strange to listen to it. When we want to make conversation using this program, the intonation of the speaker is flat, so it does not sound natural, it can reduce students' attention and less interested in joining the class. Additionally, when there are some punctuations, the app cannot interpret the appropriate intonation for those punctuations"-Teacher E-*

> *"The weakness of TTS is the speaker's tone and voice do not vary that much so it can confuse the listener." –Teacher B-*

While preparing the listening materials, EFL teachers also found some technical problem related to TTS and Google site integration. They did not find an advanced setting for better output in the TTS program. Besides, they also find it difficult to upload the material to Google site since they need to upload it first in Google Drive. Moreover, when students find problems while listening, no chat bar can be used for contacting the teacher and friends in order to solve students' problems through discussions.

> *"It does not have an advanced setting for intonation or even a setting that can help me put some background for making better output, and it does not speak appropriate intonation for punctuations. There is no setting to make it into MP3 directly" –Teacher E-*

> *"When I want to upload my prepared material, I need to use my Google Drive, so it takes time, I need to upload it in G-drive then I upload it again to my Google Site, there is no direct button to transfer my material to Google Site" – Teacher D-*

> *"What I found is a kind of technical problem such as when my students want to have the audio from the Google Site, they need to download it first, they cannot listen to it directly from the Google Site. Moreover, the materials that we upload sometimes cannot be opened. Then, when they find any problem during the online learning process, no such kind of chat bar can help them to have a discussion with their friends or me as their teacher. We may say that this Google site promote one-way learning"-Teacher B-*

The findings show that teachers gave positive responses toward the use of Text to Speech in English language learning and also the support of Google site as a media platform. Most of them

stated that Text to Speech program might help them in teaching listening by using native-like listening materials. They consider that the output of the TTS program is qualified enough to be used as listening materials. The developed material should be relevant to students' experiences and background, the target needs, and their practical needs (Graves, 2000). Besides, the Text to Speech program also lets them create materials based on the given syllabus and curriculum. This finding appropriate with criteria for developing a material which is the material should have the relationship with the curriculum used (Nunan, 2009). Since the Meanwhile, due to the use of Google site as the delivering media, they consider that it is useful to be used since it can help them in creating their online class, so the effect is letting their students access the material wherever they are.

Furthermore, the integration of Text to Speech program and Google site lets EFL teachers integrate technology, pedagogy, content, and their knowledge. This activity is included in the TPACK model. TPACK model focuses on the connection between content, pedagogy, and technology. Moreover, it helps teachers in getting knowledge about how technology could support their teaching. Adding technology to the existing teaching and content domain is not the real meaning of good teaching, it is more about the introduction of technology that causes the representation of a new concept and requires developing a sensitivity to dynamic change of English education (Koehler and Mishra, 2005). A new concept of teaching is essential to be considered since the education environment is dynamically changing. The improvement of technology should be beneficial for teachers and students. Besides using technology only, teachers need to develop pedagogical understanding when they would like to integrate technology into their teaching in order to benefit students, so then they will be able to integrate pedagogy, and content of their teaching, and the technology which will be developed through their experiences in such kinds of programs (Koehler and Mishra, 2005).

Regarding the problem or weakness while using Text to Speech and Google site, the findings show that the output of TTS program is similar to that of a native speaker since it can produce correct pronunciation although sometimes when the speed is reduced, the tone of the output becomes less natural. The reduced speed actually may help students in improving their listening comprehension (Griffiths, 1990, as cited in Zhao, 1997). It may happen because the reduced speed may give students time to comprehend what speakers say. It lets them process the given information to get a better understanding. Unfortunately, during the reducing speed, it may cause the monotony in the TTS output. Sha (2010) argues that if the speed of the output is reduced, all vowels and some consonants are strained; yet voiceless consonants remain unaffected, then it may cause the quality of the output to become less natural. While for the Google site, the main problem is about a technical problem such as there is no chat bar for further discussion and sometimes, they find it difficult to upload the listening materials, since they have to upload it in Google drive first.

CONCLUSION

This research aimed to know EFL teachers' perceptions toward integrating Text to Speech and Google site during language learning, especially for listening comprehension section. EFL teachers give positive response toward the two teaching above aids. They think that the TTS program makes teachers be able to create their listening materials based on the students' needs or be appropriate with the provided syllabus. EFL teachers consider that TTS is handy to be used in teaching listening comprehension since it can produce correct pronunciation that may help students in improving their listening comprehension skill. Moreover, the use of Google site is also considered beneficial, since it lets teachers create their own online classes which can be accessed by students whenever and wherever they want.

Although both TTS and Google site was considered beneficial, there are some problems faced by EFL teachers while using those two teaching aids. The main problem for the TTS output is the audio which will be less natural if the speed was reduced or if there are some punctuations which cannot be converted to speech, so it leads to the monotony of the sound. While for Google site's problem faced by teachers are there is no chat bar that can be used for an online forum and while uploading the listening material, they cannot directly upload it, EFL teachers should upload the material in Google drive first then re-upload it to Google site.

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