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Advantages of Using Computer in Teaching English Pronunciation

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Abstract

Pronunciation continues to grow in importance because of its key roles in speech recognition, speech perception, and speaker identty. Computer is being increasingly used in teaching English pronunciation to enhance its quality. The purpose of this paper is to discuss the advantages of using computer in English pronunciation instruction. Understanding the advantages of computer is an important step in the successful use of computer into English language teaching in general and pronunciation instruction in particular. Findings from empirical research, teachers' roles in using computer, and implications for language teachers and learners are also discussed.

Keywords: advantages, computer, language teaching, pronunciation instruction

1. Introduction

Pronunciation is one of the most difficult skills in Language learning and teaching (Haghighi & Rahimy, 2017; Pourhosein Gilakjani, 2016; Sadeghi & Mashhadi Heidar, 2016). English pronunciation hasn't been paid enough attention and no serious attempt has been done to perceive the great value of this important skill (Farhat & Dzakiria, 2017). Pronunciation instruction has been overlooked by some teachers due to lack of time, lack of confidence, and uncertainty about how to teach pronunciation (Derwing & Munro, 2015). The real goal of using computer is to make changes in language teaching and learning (Pourhosein Gilakjani, 2014a,b; Thompson, Schmidt & Stewart 2000). Computer helps teachers and learners have access to the target language in different fields (Pourhosein Gilakjani, Sabouri, & Zabihniaemran, 2015).

While few teachers receive sufficient training in teaching pronunciation and little class time is spent on teaching pronunciation, the use of computer technology can be an effective means of teaching English pronunciation (Breitkreutz, Derwing, & Rossiter, 2002; Burgess & Spencer, 2000; Kawai & Hirose, 2000; MacDonald, 2002). Different researchers have carried out some studies on pronunciation features through using computer, including general pronunciation quality (Sefero˘glu, 2005), speech rate, fluency, and liveliness (Hincks, 2005), vowels and consonants (Neri, Cucchiarini, & Strik, 2006a; Wang & Munro, 2004), vowel lengthening and pitch accents (Hirata, 2004; Kawai & Hirose, 2000), intonation (Cauldwell, 2002; Hardison, 2004a; Kaltenboeck, 2002; Levis & Pickering, 2004), English stress timing (Coniam, 2002), vowels (Wang & Munro, 2004), pitch accents and phonemic duration (Hirata, 2004; Kawai & Hirose, 2000), general segments (Neri, Cucchiarini, & Strik, 2006), pronunciation quality of individual words (Mich, Neri, & Giuliani, 2006), and intonation (Hardison, 2004). The majority of these researches indicated that using computer can be effective in teaching pronunciation.

According to Neri, Cucchiarini, and Strik (2002), computer-assisted pronunciation instruction has many advantages. Learners can have access to infinite input by using computer software individually and it can automatically provide individualized feedback for learners. Learners can also use a lot of pre-recorded materials by the use of computer. Neri, Cucchiarini, and Strik (2002) also emphasized that high quality sound is one of the important features of computer software that gives learners the opportunity to look at the articulatory movements used in producing sounds. The other feature of computer is that teachers/learners can compare their sounds to that of native speaker. Hismanoglu (2006) expressed that pronunciation software provides a stress-free environment through which they learners can access to endless input, practice at their own pace, and receive feedback.

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Teachers can use computer in their pronunciation classes because it gives their learners drilling practice that can help them improve their pronunciation. It can provide them an interactive learning environment in different modes such as whole class, small group or pair, and teacher to student (Hismanoglu & Hismanoglu, 2011). Computer provides learners with individualized instruction, frequent practice through listening discrimination, and automatic visual support that indicate them how their own pronunciation is near to the native speaker model (Levis, 2007). According to Hayati (2010), the use of computer is one of the good ways of improving pronunciation teaching and learning. It creates a natural environment for both teachers and learners to teach and learn pronunciation effectively.

2. Empirical Studies on Using Computer Technology for Teaching English Pronunciation

The use of computer for improving pronunciation has been investigated by some researchers (Butler-Pascoe & Wiburg, 2003; Eskenazi, 1999; Kim, 2006; Neri, Cucchiarini, Strik, & Boves, 2002; Walker, 2005). Walker (2005) found that students' recordings improve their pronunciation. These recordings increase students' motivation and their autonomy and permit them to evaluate themselves. These recordings are analyzed by speech analysis software and thus improve pronunciation. Neri, Cucchiarini, and Strik (2006) carried out a study on using computer for teaching pronunciation. The findings indicated that computer technology helped Dutch learners improve their production of the trained Dutch segments.

Hutchby (2001) found that computer technology helps learners increase their focus on the effective learning of pronunciation. Simões (1996) investigated the effect of computer on teaching intonation. The findings represented that the usage of computer is very effective in teaching intonation. Eskenazi (1999) found that the application of computer is useful for the learning of various features of pronunciation such as stressed and unstressed words. Dekaney (2003) also expressed that using computer is much more effective than using traditional methods for pronunciation instruction. Seferoğlu (2005) used *Pronunciation Power* software (2000) for teaching pronunciation. Seferoğlu (2005) showed that teachers who used the software for pronunciation instruction had significantly better post-test scores than those who used traditional teaching methods.

AbuSeileek (2007) used accent reduction software to find out whether it leads to the improvement in learners' pronunciation. The results indicated that the experimental group that follows instruction by using accent reduction software outperforms the control group which follows traditional instruction. The findings of this study also revealed that the software has a lot of advantages for learners to improve their pronunciation. Rostron and Kinsell (1995) conducted a study on learning pronunciation and the results of their study revealed that participants who used a computerized program had greater improvements in pronunciation than those who didn't use it.

Many researchers examined the effect of ASR technology on improving pronunciation (Al-Qudah, 2012; Hincks, 2005; Kim, 2006; Seferoglu, 2005). Hincks (2005) investigated the impact of *Talk To Me* software based on ASR technology on the English pronunciation of a group of participants. The obtained results represented that automatic feedback that participants received in the experimental group about the quality their pronunciation quality from *Talk To Me*–software was more effective than feedback they received in the control group from their teacher. In addition, Kim (2006) performed a study on ASR software. The participants of his study used ASR software and listened to sentences produced by the native speakers. The results of this study indicated that ASR software was a useful means of teaching pronunciation to learners in situations where they do not access to native speaker teachers.

The other study was done by Verdugo (2006) towards the effect of ASR software on intonation. Two groups took part in this study: experimental and control group. The experimental group which used ASR software improved the quality of intonation more than the second group that did not use the software. Moreover, Lee (2008) investigated the effect of *My English Tutor* and *Issues in English* software on Taiwanese learners' pronunciation. The results of this study indicated that these two computer software had a significant effect on improving the learners' pronunciation. Mitra, Tooley, Inamdar, and Dixond (2003) examined the impact of the ASR software on learners' pronunciation of problematic phonemes. The findings represented that the ASR software helped learners to improve their pronunciation.

Graff (2006) did a study towards the impact of *Rosetta Stone* software on subjects' English pronunciation. The results revealed that subjects who used *Rosetta Stone* software had a significant improvement in the quality of their pronunciation while those who used traditional instruction did not have any pronunciation improvement. Neri, Cucchiarini, and Strik (2008) examined the effect of ASR software on pronunciation. The findings showed that the

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group who received feedback from ASR software had a greater pronunciation improvement than the group who did not receive any feedback on the segmental quality of the difficult phonemes. Hinks and Edlund (2009) investigated the impact of ASR-based visual feedback on improving pitch. According to the obtained results, the experimental group who used ASR technology had a higher pitch improvement than the control group who did not use it.

Lai, Tsai, and Yu (2009) carried out a study to investigate the effect of ASR software on students' pronunciation. The findings displayed that students in the experimental group who used the software had more pronunciation improvement than the control group who did not apply it. Hismanoglu (2012) conducted a study to examine the problems of word stress patterns. The researcher also investigated the effect of computer pronunciation lessons and traditional pronunciation lessons on Turkish learners' accurate production of stressed syllables. The findings showed that the experimental group who used computer software for teaching pronunciation lessons outperformed the control group who used traditional methods for pronunciation instruction.

Iranian researchers have also carried out some studies towards using computer in teaching English pronunciation. Talebi and Teimoury (2013) performed a study to examine the effect of CALL on Iranian learners' pronunciation skill. The findings of this study revealed that learners substantially improve their pronunciation skill by using computer-based pronunciation materials. Gorgian, Hayati, and Pourkhoni (2013) examined the effect of computer software on learning prosodic features of pronunciation. There were two groups in this study. The control group received traditional teaching methods while the experimental group received CALL approach. The findings represented that the group who practiced stress and intonation through CALL was more successful than those who were taught through traditional teaching methods.

Baradaran and Davvari (2010) conducted a study towards the impact of using pronunciation software on foreign accent reduction. This study involved two groups: an experimental and a control group. The control group received teacher instruction on pronunciation. The experimental group received pronunciation instruction by *Pronunciation Power 2.* The results of this study revealed that participants in the experimental group significantly performed better on the post-test following the use of *Pronunciation Power 2*.

Sadeghi (2013) performed a study towards using Computer Assisted Language Learning (CALL). The results of his study showed that Japanese EFL learners improved their perception and production of English consonants by using CALL. The researcher used audio and audiovisual media for perceptual training of English consonants and it was demonstrated that the audiovisual presentation is better than audio one and the improvement of pronunciation depends on the perceptual training. Baradaran (1999) examined the impact of speech analysis by CALL technology. The results revealed that this technology improved intermediate EFL learners' pronunciation.

The findings obtained from the above empirical studies indicate that the use of computer is a good way of learning and teaching English pronunciation and provides enjoyable and interesting activities for both learners and teachers. Teachers can change their pronunciation instruction through using computer because it is one of the useful means of improving pronunciation instruction. It is expected that teachers make the maximum use of computer in teaching English pronunciation.

3. Teachers' Roles in Using Computer

Teachers' roles have been divided into five categories: planner, manager, facilitator, guide, and participant in the use of computer technology. As a planner, the teacher should know that computers are appropriately included in the program, organize the learning environment, and urge learners to work together. As a manager, the teacher should be certain that learners have similar access to computer and should use appropriate programs according to the learners' abilities and needs. As a facilitator, the teacher helps learners to construct their own knowledge, helps them to set their learning objective, and urges them to examine what they learn. As a guide, the teacher encourages learners towards new learning and motivates them to participate in tasks that raise their thinking skills. As a participant, the teacher cooperates with learners to do cognitive learning tasks. These categories of teachers' roles suggest that using computer into the classroom changes the teacher's traditional role from a giver of information to a facilitator of information (Ryba & Anderson, 1990).

According to MEB (2008), teachers should be able to use computer technology effectively in the learning process and they should be a pattern for their learners in using computer technology. Molaei and Riasati (2013) stated that in a

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computer-oriented technology environment, teachers direct class activities and help students to organize their activities. They continued that the application of computer technology is suitable for teachers because they can control their learners. Molaei and Riasati (2013) emphasized that teachers should be aware of their roles as guides and facilitators of learners' activities. When using computer, teachers' roles can change from the source of authority to a guide that leads learners to take more responsibility for their own learning. This change of role will be very useful not only for the teacher but also for learners in the learning process.

According to Kohlberg and Mayer (1972) and Lai (1993), teachers in computer-supported environment cannot take the traditional knowledge-transmission role. As a knowledge facilitator, rather than a knowledge giver, there are some roles for teachers in the use of computer technology (Computers in Education Development Unit, 1987).

1. Teacher as Planner and Manager: Teachers should understand obviously why computers should be used in their classes and how they can be used into the curriculum to facilitate active learning. Teachers should be knowledgeable concerning where and how to put the resources they require. Teachers should be willing to take risks in their curriculum planning. Teachers should manage their classroom computer resources. Sometimes there are not sufficient computers in the classrooms for learners to use. Planning computer use usually creates some management problems for teachers when there is a large class and when teachers should be certain that their learners get suitable access to computer resources (Lai, 1993).

2. Teacher as Participant: In this role, the teacher is not the knowledge authority. The teacher does not prepare a lesson in advance and present it in class. Computer programs constructed in the classroom were initiated by the learners and classroom activities should be flexible. The teacher should take the role of a participant in the learning process. Teachers should learn beside their learners and observe the learners to understand when aid is required (Lai, 1993).

3. Teacher as Guide: If the necessary skills and knowledge are to be learned, it is significant for learners to have some metacognitive knowledge of their learning process and of themselves as learners. A computer-supported environment will facilitate the learning of these skills and knowledge, provided that the teacher has given sufficient guidance to learners (Lai, 1989). Teachers should be very sensitive to the improvement of their learners and be willing to provide motivation and assistance whenever it is required (Lai, 1993).

According to Zhu (2010) and Pourhosein Gilakjani (2017), teachers have various roles towards using computer technology including expert, formal authority, personal model, facilitator, and delegator. In the role of expert, teachers should have general knowledge about the subject they teach and should be the knowledge source for their learners. In the role of authority, teachers should be very skilled about the area they teach and learners should follow the rules their teachers identify for them. In the role of model, what teachers tell, do, or show in the classes can be as a model for learners to follow and and this role can have a significant impact on their learners' improvement. In the role of facilitator, teachers guide their learners to learn new things based on what they already know and facilitate their learning processes. In the delegator role, teachers give tasks to learners and encourage them to work independently.

4. Implications of This Study

This review literature can have useful implications for both teachers and learners. Teachers should know that computer technology is regarded as a useful instrument to improve pronunciation instruction. Teachers should not think that the use of computer threatens their authority in the classes. Teachers should have positive beliefs towards the effect of computer technology in teaching pronunciation because it can substantially improve the quality of their pronunciation instruction. Teachers should encourage their learners to improve their knowledge of computer and use it more out of their class time. Learners should know that the use of computer can give them a lot of pronunciation knowledge and use them for the learning of pronunciation. Learners should know that computer alone does not improve their pronunciation. They should exert more effort and put more time on improving their pronunciation through the use of computer. Learners should know what they want to learn, how to learn, and where to find pronunciation knowledge while using computer. Learners should be encouraged to learn pronunciation from each other by using computer technology.

5. Conclusion

This paper has attempted to indicate the advantages of using computer in teaching English pronunciation. Awareness of the advantages of computer technology in improving instruction has some implications for both teachers and

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learners. Teachers should be appropriately trained in the correct use of computer for teaching pronunciation. Teachers should receive training periods towards computer to teach pronunciation successfully. Teachers should voluntarily take part in these periods because it will increase their confidence towards using computer. Teachers should be provided with enough computers, sufficient time, and technical support in order to maximize the quality of their teaching. Teachers should know that their role is to help their learners, facilitate their learning process, not to give learners everything they need while using computer for their own learning. Teachers should also know that it is teaching method, not computer technology that determines the impact of teaching and learning pronunciation. The use of computer in English classes makes pronunciation teaching environment more effective for teachers and the overall learning process more enjoyable for learners.

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