Stories have long been considered a natural stimulus for discussion, review, and problem solving in English classes. Stories is the most common beginning to encourage the learners to meditate and provides a natural means to develop thinking, knowledge and language skills. Many believe that storytelling has a powerful structure for organizing and conveying information as well as creating meaning in life and the immediate environment of the discourse participants, and that storytelling motivates students to think about their problem-solving approaches and to explore the vague nodes of the story (HOSEINI, 2005).

Story, if written in a proper structure, strengthens learners' language skills, especially reading skills, fertilizes their minds, and strengthens their imagination. It provides valuable experiences and acquaints learners with moral and educational values in various ways, and encourages them to avoid vices and morally reprehensible traits. Scholars of education see storytelling as a bridge that connects the imaginary world of learners to the real world. Stories with their sweet and engaging expression can indirectly convey the difficult meaning and hard to understand principles (BIDMESHKI, 2007). Stories also play a significant role in shaping and strengthening learners' skills in different ways of thinking, developing the power of logical reasoning, applying critical thinking skills, and the ability to solve problems successfully (GLAZER & GIORGIS, 2005).

In research on storytelling and its impact on education, less has been done to integrate this method with new technologies. Today, one of the most popular media at various times are multimedia, which can be used to facilitate the learning process. Amir Teymori (2010) defines multimedia as the use of a computer to exchange content through a collection of texts, sounds, still and moving images, and animation with interfaces and tools that allow the user to navigate, interact and communicate with the learner.

The multimedia teaching-learning process is a form of multisensory interaction through a computer. When using this type of two- or multi-system features such as print text, graphics, animation, audio and video, learning is done better. These features have other advantages, which can be summarized as being cheap, mutual, and active. The content is also easy-to-transfer, suitable for adults, and well-organized. In addition, the multimedia teaching-learning process facilitates measuring results, timely presentation, developing appropriate quality and quantity of content, manipulating the speed of presenting different content and flexibility in training schedules (AFZALNIYA, 2015).

Aloraini (2012) lists some of the benefits of using multimedia in education: (1) creating a dynamic and active process in reading texts instead of presenting written and printed texts in books, (2) providing different graphic and visual representations that support the explanation of ideas, relationships, and information, (3) moving easily from one topic to other prepared questions and discussions, (4) using a different presentation like a video clip with a design or other types of presentation that help bring the information closer to reality.

In the past, most research in the field of educational media has focused on comparing the effectiveness of two different media. There is a lot of research in this field. But according to Fardanesh (2013), after proving the important point that the media are not fundamentally...
different in conveying educational content to learners, research has gradually shifted to topics such as the study of factors affecting its effectiveness. Since then, researchers has not sought to prove the absolute superiority of one medium over another, but to examine the characteristics of each medium and to study the effects of change in these factors.

Story-telling, in general, and digital story-telling, in particular, are closely linked with speaking ability which is perhaps the most common form of human communication. This skill is actually the process of making and exchanging meaning by using verbal and non-verbal symbols in different contexts (VERCELLOTTI, 2015). Chaney and Burk, (1998) stated that out of the four language skills, speaking is perhaps the most important. Generally, people who are fluent in a language are considered to be speakers of that language, assuming that speaking skills include all other skills. Therefore, perhaps most language learners are more interested in acquiring this skill (BURNS & RICHARDS, 2009).

Considering the importance of speaking skill as a survival skill and its communicative value in language learning, there is a plethora of study on the effectiveness of different methods and techniques for teaching speaking communicatively. Speaking skills have always been one of the main challenges for language learners and it is natural that a lot of research has been done in this field (KHANY & GHOREYSHI, 2013; KHABIRI & LAVASANI, 2012; KOOSHA, KETABI & KASSAIAIN, 2011; MALMIR & SHOORCHEH, 2012). Among these, several attempts have been made to use digital story telling as the basis for teaching English speaking skills to the speakers of other languages (HUNG, HWANG & HUANG, 2012). The present study is also an example of such research in which the addition of a story element in educational multimedia is considered as a variable.

This research was conducted during Covid-19 pandemic when the schools, universities and institutes were locked down as a part of social distancing policy. This condition made EFL learners and teachers use the online learning tools exclusively; meanwhile they were not ready to encounter to this unprecedented condition. Although some experts argued that online learning is interesting and motivating for EFL learners (ALDHOLAY ET.AL, 2019; ALQURASHI, 2019), and increases their competence in English (JURKOVIĆ, 2019), the fact that the exclusive use of online learning tool has the same impacts and outcomes is disputable. Interaction in an EFL class may not be guaranteed in the process of online learning, as is occurred in a classroom since many learners may not be able to share their ideas directly on online platforms. It has to be noted many studies that promised positive learner perception of online instruction and desirable achievements of EFL learner (ELAISH, ET. AL, 2019; SARI & WAHYUDIN, 2019), used online instruction for a short period of time or as a supplementary teaching aid based on blended learning approach. The existing need for digital learning formats, however, is not a matter of choice anymore and the shift to online and digital learning technology for language acquisition is a must (HARTINGER 2018) which is currently dramatically increased during Covid-19 pandemic.

Since storytelling in multimedia takes education out of the dry and informal state and makes the learning process more enjoyable, it seems to affect students’ academic achievement and students’ attitudes toward it. Additionally, the outbreak of Corona virus in the late 2020, led to obligatory adoption of multimedia-based instruction and using digital platforms. This period was an opportunity to reconsider the potentials of digital story-telling, among other technologically oriented methods, as the main means of delivering L2 instruction in different EFL contexts. Accordingly, this study aimed at reporting the results of the research done on using digital stories as the dominant speaking instruction method to intermediate Iranian learners of English who consistently attended online classes during the Covid-19 pandemic. in 2021. Bearing this objective in mind, the researcher attempted to answer the following research question:

Is there a significant difference between the effects of synchronous and asynchronous digital story-telling on the speaking performance of the intermediate EFL learners in terms of accuracy and fluency?
REVIEW OF THE RELATED LITERATURE

Teaching speaking skills

Speaking is an extremely complex skill that involves psychological and social processes (BURNS & RICHARDS, 2009). Speaking means the selection of appropriate words and sentences in different social contexts for the relevant audience, in the context of a specific topic. This skill, along with the process of interacting meaning, involves the production, reception, and processing of information (Brown, 2008; BURNS & JOYCE, 1997). Of course, in order to be able to enter this process of interaction in different situations, learners must use various strategies (HARMER, 2009).

In the process of speaking, individuals make decisions about why, how, and when to communicate, depending on the cultural and social context around them (GILBERT, 2007). Due to these defining aspects, the complex and confusing nature of speaking has been increasingly researched in recent decades. This body of research confirms the importance of speaking as an interactive and social communication process bound to the conditions of production of speech (KAWAUCHI, 2005. LOTFIPOUR-SAEDI, 2015).

The multidimensional nature of speech is strongly intertwined with various psychological, neurological, and physiological components of the individual on the one hand (ZUCKERMAN, 2005) and social structural variables on the other (SPOLSKY, 2018). This complexity makes it very difficult to learn this skill. Therefore, studies on methods to facilitate learning and mastery of speech are ongoing.

According to Bygate (1998), in order to achieve the goal of communication through speaking, two issues must be considered: language knowledge and the skill of applying this knowledge. Therefore, learning this skill is more than just mastering the phonetic, lexical, syntactic and semantic structural rules of language, and many other variables must be considered, including the socio-cultural aspects of language (BIJANI & KHABIRI, 2017; GAN, 2008; NOWICKA, & WILCZYN’SKA, 2011). Thus, speaking can be both a sense of achievement and motivation and cause fear and anxiety, which is why speech becomes a very complex linguistic, neurological and emotional skill (HINKEL, 2006).

Richards (2008) emphasizes a key point in speech, i.e. people tend to do something by talking. This, in turn, is the foundation of task-based language teaching. Tasks are the main units of planning and learning in which learners use language for a communicative purpose and to achieve a result (Ellis, 2003; Willis & Willis, 1996). In this vein, story-telling is viewed as a real-work task which can be easily tailored to clear pedagogic goals in language learning. Accordingly, digital story-telling can be seen as a task of narration which serves communicative and educational goals within an EFL classroom.

Digital story-telling

Digital stories can be produced based on personal experiences, historical stories and anecdotes. The duration of each story is usually between 2 and 6 minutes. To create digital stories, various types of multimedia production software such as Movie Maker, Plioto Story and Corel Video Studio are used. Digital stories are often produced and used in education to achieve at least one of these three goals (Rossiter & Clark, 2007): (1) production and use of digital stories by the teacher to teach a specific educational goal, (2) production and use of digital stories by the teacher to describe topics related to educational content, and (3) production of digital stories by students to better understand an educational goal by telling personal stories related to educational content.

Robin (2008) believes that the production and use of digital stories lead to the strengthening of five types of skills or literacy, including: digital literacy (the ability to communicate with people through digital tools), general literacy (the ability to read and write, and comprehending texts, in general), technological literacy (ability to use computers and other technological tools), visual literacy (ability to understand symbols, signs and visual effects) and information literacy (ability to find and use of information in different sources).

Production and use of digital stories is based on the cognitive theory of multimedia learning (Mayer, 2003), which is based on three principles of cognitive science learning:
(1) The dual channel principle: human mind has two channels for processing visual and auditory/verbal information;

(2) The limited capacity principle: each channel has a limited processing capacity. Therefore, human ability in information processing is limited in each channel to a certain period of time.

(3) The principle of active processing: active learning is the performance of a series of cognitive processes related to learning, including attention, organization of the information entered and integration of information with the learner’s prior knowledge (ZAREI ZAVARAKI & JAFARKHANI, 2009).

According to this theory, the use of words, images and text can increase short-term memory capacity when processing information and can lead to more active and lasting learning. In addition, according to Baddeley (1992), when text and images are presented together visually, pervasive visual attention is divided between text and images. When visual attention is saturated, part of the information is lost without being processed, and the process of communicating between verbal and visual information is disrupted. Conversely, when the text is presented orally (narrative) with related images, the learner can process the text with their audio memory and the moving images with their visual memory; thus, mental engagement decreases and concentration increases.

Related empirical research

It has been about two decades since the idea of digital storytelling was formed and different types of digital stories have been used for different purposes. In the field of education, reviewing the researches shows the positive and amazing effect of this educational technique on learning various subjects (BANASZEWSKI, 2002). In one of the early studies, Kajder (2004) examined the effect of digital storytelling on the literacy skills of high school students in the United States. In the study, students asked themselves questions as they learned, and then, in response to their questions, produced stories with topics such as family memories, childhood books, and school experiences in a multimedia filmmaking environment. The results showed that using digital storytelling increases students’ participation in classroom activities, motivation for group activities and joint efforts, and their literacy skills.

Verdugo and Belmonte (2007) probed the effect of digital storytelling on the listening skills of English language learners in Spain. The researchers encouraged learners to listen to and watch the stories by selecting digital stories suitable for children through the online system. The results of classroom observation and review of teachers’ notes indicated the constructive effects of using digital stories in the language classroom. Also, the results of data analysis showed that digital storytelling is a good technique for teaching listening skills and can have a positive effect on strengthening students’ listening skills. Yang and Wu (2012) compared the effect of using digital storytelling with teacher lecture methods among Taiwanese students in English language classes. The results showed that the use of digital storytelling can have a significant effect on academic achievement, critical thinking and motivation of students to learn the language. The results of interviews with students and teachers also showed that for both groups, digital storytelling is a valuable educational technique that teaches students about exploratory learning and critical thinking.

Chuang and Kuo (2013) examined the effect of digital storytelling on the reading performance of Taiwanese learners using the online Storybird system. The results showed that digital stories have a significant effect on students’ reading comprehension and vocabulary learning. More than 81% of language learners stated that reading digital stories improved their English comprehension and vocabulary learning. Behrang and Asadi (2008) compared the effects of using multimedia programs and the traditional method. The results showed an increase in vocabulary, comprehension ability, spelling skills and spelling of English words in the experimental group due to including digital storytelling in the program.

Abdollahpour and Asadzadeh Maleki (2012) examined the effect of using digital stories in comparison with reading printed books on the writing skills of Iranian language learners. The results showed that after testing the writing skills of students who used computer stories, the final scores of digital storytelling group were significantly higher than those who read printed story books. Suroshjani and Etemadi (2012) studied the impact of online computer stories on
listening comprehension of Iranian young learners. The results showed that the use of digital stories has a significant effect on strengthening their listening skills.

Eissa (2019) in his case study at Northern Boarder University applied digital storytelling as a substitute for the conventional method. With reference to the observed scores of the learners and the perceptions of the learners and teachers, he concluded that EFL teachers should modify their conventional methods of EFL teaching. He recommended digital storytelling as a promising alternative. Arroba and Acosta (2021) with reference to their initial finding that the participants acknowledged the importance of authentic communicative strategies to improve oral skills, introduced authentic digital storytelling to improved students’ speaking skills. The results of their study indicated that their intervention was considerably successful.

Yang, Chen and Hung (2020) examined the effectiveness of digital storytelling on EFL learners’ speaking and creative thinking. Devising a quasi-experimental design, they revealed that authentic and meaningful learning opportunities that digital storytelling offers, improves the students’ speaking proficiency and creative thinking. Kallinikou and Nicolaidou (2019) examined the relation between adults’ engagement in digital storytelling and their speaking skills and motivation when learning a foreign language. Using a quasi-experimental design, they showed that digital storytelling not only improves the learners speaking ability but also their motivation if digital storytelling is scaffolded by an interactive learning environment.

METHOD

Participants
The participants in this study were 65 female EFL learners in a private language institute. The age of the participants was between 14 and 17 years. It should also be noted that out of 65 people who participated in the present study, only one was fluent in Azeri and Persian, and the rest were fluent in Persian only. In addition, all of these participants were learning English at high school simultaneously. They were selected based on convenient sampling method. The classes were randomly assigned to the synchronous digital storytelling group (SDST) (n= 37) and asynchronous digital storytelling group (ADST) (n= 28).

Instruments
There were three instruments in this study, Oxford Placement Test (OPT), a pretest and a posttest.

Oxford Placement Test (OPT)

Pretest
PET speaking section, after being piloted, was used as the pre-test to measure the speaking performance of the participants. The speaking test, which lasted for 10-12 minutes, included a three-part interview with the examiner. Part 1 included short questions and answers between the interviewee and the examiner. In part 2, the interviewee looked at a visual and discussed it with the examiner. In part 3, the interviewee had a ‘long turn’ to speak about a picture for one minute.

Posttest
A different PET speaking section, after being piloted, was used as the post-test to measure the speaking performance of the participants after the intervention. The speaking test, which was administered similar to pretest one, also included a three-part interview with the same examiner who conducted the pretest interviewee.

Material
The textbook was Top Notch 2B (SASLOW & ASHER, 2016) which consists of five units including a unit of 4 lessons in student ’s book, an equivalent unit in workbook, a grammar booster section, including extra exercises on grammar, a writing booster section, including writing tips. During each term, these five units were taught. This textbook enjoys the following key features: (1) An integrated approach to all four language skills and practice sections containing a variety of tasks and activities, (2) The everyday language section is adopted from real texts and conversations and focuses on the use of language in different social contexts.
The material used in this research included a researcher-made multimedia from the Top Notch 2B (SASLOW & ASHER, 2016). This multimedia was interactively designed with Storyline, which included training slides and practice slides. Then, the educational multimedia was presented in five 40-minute episodes, each session for one of the units of the course book. This multimedia was designed in a routine and linear manner in which various elements such as text, sound, images and educational videos were included. Both groups had the same content.

**Procedure**

The present study was a quasi-experimental study with a pretest-posttest design with an experimental group (SDST) and a comparison group (ADST). In order to answer the research question raised in this study, the following data collection procedure was followed. In the beginning, after piloting the speaking tests and administering OPT, which eventually led to the formation of two groups, 18-session training intervention in both groups was started under the researcher supervision.

The preparation of digital stories had three stages (pre-production), production and presentation (Frazel, 2011). Preparation and pre-production stage included choosing the subject of the stories based on the topics of the student's book with the cooperation of teachers of the same level, selection of five English stories based on selected topics by controlling the difficulty level of the stories in relation to the student’s books, Story Board design, designing and searching for images based on Story Board, recording audio storytelling files. Production stage included using multiple apps to produce multimedia digital story content based on the Story Board, including placing images in the predicted order based on the story process in the software environment, adding graphics and visual special effects, mixing the narrator’s voice with images and soundtrack and final sound adjustment, saving multimedia file in MP4 format for display on digital tools. In the presentation stage, digital story files were shared with the groups before each unit of the textbook started on a social media platform.

The teaching method of speaking skills, educational content and teacher were the same in both classes. The teaching method used in both groups was communicative teaching method including pre-speaking, speaking and post-speaking. In the pre-speaking stage, the topic of speaking was introduced with warm-up questions and short discussion so that language learners would be interested and motivated to do speaking activities. In the speaking phase, digital stories were shown multimedia in the synchronous group, and students watched and listened to the story file. Then they were asked to share their stories with the class afterward via their recordings.

The plan for the asynchronous group included watching the narration of the story out of the class so that they had chances to use multimedia playback. In the post-speaking phase, students completed a variety of assignments including preparing and recording their stories. They shared their recorded files with the teacher to be corrected and commented on. The purpose of these assignments was to assess their understanding of the story and to resolve possible problems. The pre-speaking and post-speaking activities were the same in both groups.

After transcribing the content of the recorded interviews, the scores of the participants in each of the two aspects of accuracy and fluency were determined. It is necessary to note that the interviews were held on one-by-one basis, and students were familiar with this style of exam since such interviews are held every term as a part of their final test for assessing their speaking achievement. The calculation of accuracy and fluency was done using the following formulas.

Accuracy in this study was evaluated based on the percentage of correct T units to the total T units. In order to assess the participants' speaking fluency, the formula offered by Skehan and Foster (1999) was used. According to this formula, the number of repetitions of a word, the expression of a wrong word and not correcting it, changing the word, and correcting it are the factors to be measured. In fact, the greater the number of uses of these factors is, the lower the fluency.
RESULTS

The results of the calculation of the accuracy and fluency of the learners’ performance on pretest and posttest are shown below in Table 1. Accordingly, 28 participants were in the ADST group and 37 of them were in SDST group. Before performing one-way ANCOVA, the normality of the data was first checked by Kolmogorov-Smirnov test. Below is the result of examining the normality of the data, along with other descriptive statistics required for each test.

Table 1. Descriptive Statistics and the Results of Kolmogorov-Smirnov Test for ASST and SDST groups

| Test    | Variable | Mean  | SD   | Kolmogorov-Smirnov |
|---------|----------|-------|------|---------------------|
|         |          |       |      | Z                   | p       |
| Pretest | Accuracy | 79.86 | 17.01| .87                 | .52     |
|         | Fluency  | 8.14  | 2.17 | .93                 | .49     |
| Posttest| Accuracy | 83.53 | 16.45| .71                 | .69     |
|         | Fluency  | 7.09  | 2.45 | 1.02                | .25     |

Source: Search data.

As can be seen in Table 1, the observed p levels for both variables before and after the intervention were greater than the critical level (p > .05), which indicated the normality of the distribution of the data for both variables. Accordingly, ANCOVA was used to test the hypothesis formulated for the research question which was as follows:

- There is not a significant difference between the effects of synchronous and asynchronous digital story-telling on the speaking performance of the intermediate EFL learners in terms of accuracy and fluency.

- Accordingly the descriptive statistics for the accuracy and fluency of the learners in both groups were calculated and are reported below.

Table 2. Descriptive Statistics and the Results of Kolmogorov-Smirnov Test for ASST and SDST groups on Pretest and Posttest

| Group     | Variable | Test  | Mean  | SD   | Kolmogorov-Smirnov |
|-----------|----------|-------|-------|------|---------------------|
|           |          |       |       |      | Z                   | p       |
| Asynchronous | Accuracy | Pretest | 75.35 | 4.18 | .12                 | .20     |
|           |          | Posttest | 82.82 | 4.92 | .14                 | .15     |
|           | Flueny   | Pretest | 8.42  | 1.19 | .24                 | .09     |
|           |          | Posttest | 7.32  | .66  | .19                 | .07     |
| Synchronous | Accuracy | Pretest | 74.32 | 4.70 | .12                 | .15     |
|           |          | Posttest | 76.40 | 6.36 | .14                 | .14     |
|           | Flueny   | Pretest | 8.21  | .88  | .22                 | .10     |
|           |          | Posttest | 7.86  | 1.27 | .14                 | .12     |

Source: Search data.

Based on what is reported in Table 4.2, it can be concluded that, with regard to the pretest scores, before the course the two groups were rather close in terms of their accuracy and fluency of speaking. However, considering the posttest scores, it has to be mentioned that the asynchronous group could perform better on the final test in terms of both accuracy and fluency. In addition, the observed statistics related to the distribution of the scores confirm the normality of the distribution of the pretest and posttest scores collected on the pretest and posttest of the both groups. in accordance with the results shown in Table 1 and Table 2, parametric analyses were done the results of which are shown below.
Table 3. ANCOVA for the accuracy of ASDT and SDST groups

| Source               | Type III Sum of Squares | df | Mean Square | F     | Sig. | Partial Eta Squared |
|----------------------|-------------------------|----|-------------|-------|------|---------------------|
| Corrected Model      | 2148.508                | 2  | 1074.254    | 106.971 | .000 | .775                |
| Intercept            | .551                    | 1  | .551        | .055  | .816 | .001                |
| Pretest accuracy     | 1492.395                | 1  | 1492.395    | 148.609 | .000 | .706                |
| group                | 441.086                 | 1  | 441.086     | 43.922 | .000 | .415                |
| Error                | 622.631                 | 62 | 10.042      |       |      |                     |
| Total                | 410176.000              | 65 |             |       |      |                     |
| Corrected Total      | 2771.138                | 64 |             |       |      |                     |

a. R Squared = .775 (Adjusted R Squared = .768)

Source: Search data.

As shown in Table 2, it can be concluded the asynchronous group outperformed the synchronous group in terms of accuracy of speaking performance.

Table 4. ANCOVA for the fluency of ASDT and SDST groups

| Source               | Type III Sum of Squares | df | Mean Square | F     | Sig. | Partial Eta Squared |
|----------------------|-------------------------|----|-------------|-------|------|---------------------|
| Corrected Model      | 2006.907                | 2  | 1003.453    | 15.755 | .000 | .337                |
| Intercept            | 761.739                 | 1  | 761.739     | 11.960 | .001 | .162                |
| Pretest Fluency      | 1621.265                | 1  | 1621.265    | 25.455 | .000 | .291                |
| group                | 551.754                 | 1  | 551.754     | 8.663  | .005 | .123                |
| Error                | 3948.945                | 62 | 63.693      |       |      |                     |
| Total                | 305403.000              | 65 |             |       |      |                     |
| Corrected Total      | 5955.852                | 64 |             |       |      |                     |

a. R Squared = .337 (Adjusted R Squared = .316)
b. Weighted Least Squares Regression - Weighted by Accuracy (Posttest)

Source: Search data.

As shown in Table 2, it can be concluded the asynchronous group outperformed the synchronous group in terms of fluency of speaking performance. Accordingly, it can be argued that the hypothesis stating that there is not a significant difference between the effects of synchronous and asynchronous digital story-telling on the speaking performance of the intermediate EFL learners in terms of accuracy and fluency is rejected and the learners in the asynchronous group could outperform the ones in the synchronous group.

DISCUSSION AND CONCLUSION

The results of this study showed that the use of digital storytelling in teaching foreign language speaking skills can improve their performance in terms of both accuracy and fluency. This finding confirms in the first place the effective role of appropriate design of speaking skills. And asynchronous digital storytelling was more beneficial to the learners than synchronous digital storytelling. This can be partly attributed to the fact that digital storytelling is one of the effective ways to reduce auditory anxiety. This is partly due to the use of appropriate, interesting and entertaining educational materials that can make the speaking process enjoyable (Arroba and Acosta, 2021; Yang, et. al., 2020).

Speaking is a complex psychological, linguistic, and neurological process in which the speaker must actively create meaning in his or her mind with the help of his or her imagination and mental schemas and constant interaction with the interlocutor. If learners are not able to manage and control language data well due to low language skills, they will not be able to...
convey the intended meaning (Kallinikou & Nicolaidou, 2019). Doing this complex process in a limited amount of time, the fear of not expressing well what they are saying, and as a result being embarrassed in front of people, causes speaking anxiety. Although speaking anxiety is associated with the level of language skills of learners and lower level learners usually suffer from severe speaking anxiety due to limited language knowledge, as the findings of this study showed, choosing the right educational materials may reduce this anxiety and confidence which in turn help learners speak in English confidently.

The findings of this study can be compared with the research study conducted by Verdugo & Belmonte (2007). They also revealed the positive effects of using digital storytelling and the educational value of this technique in a foreign language classroom. The reason for this positive effect is that digital storytelling combines the art of storytelling with technology tools and a multimedia environment, doubling the impact of both teaching asynchronous and synchronous digital storytelling. The finding of the present study, introducing digital storytelling as a tool which might help EFL learners improve their speaking skills due to its motivating power, is in line with those of Clarke and Adam (2011), Keshta and Al-Rahman (2010), and Kowsary and Zolfagharkhani (2013) which were done on the effects of digital storytelling on other skills than speaking as well.

The results of this study entail some pedagogical implications for EFL teachers looking for providing a motivating effective environment for their EFL learners in that it has a considerable effect on students’ speaking skill improvement in particular. Digital storytelling, proving a promising context for sharing thoughts and ideas as a class, group or individually, was found to be a tool encouraging learning, good communication skills and engagement in speaking.

Simplicity of digital storytelling in comparison to other online tools would help instructors present their calibrated materials and help learners to be more geared with teaching-learning process in speaking classes. In a similar vein, material developers have a new line of material development to pursue in future. That is, with the current accelerated trend toward online education, material developers would inevitably face a gap in producing digital materials, one of which could be digital storytelling material for different groups of EFL learners.

With regard to the limitations of this study, more research is needed to investigate the impact of digital storytelling developed on other platforms on the speaking skill. Further issues such as the effect of digital storytelling on skills namely writing, listening and reading has to be explored. Also, studies on innovative ways of telling digital stories and their impact on learners’ skills are needed. More studies of qualitative type is needed to explore the learners perceptions toward digital storytelling and the possible challenges the teachers face utilizing this method in EFL classes.

**REFERENCES**

ABDOLLAHPOUR, Z.; & ASASZADEH, N. The impact of exposure to digital flash stories on Iranian EFL learners’ written reproduction of short stories. *Canadian Journal on Scientific and Industrial Research*, 2012, 3(2), 40-53.

AFZALNIYA, M. R. *Learning technology*. Tehran: SAMT, 2015.

ALDHOLAY, A.; ABDULLAH, Z.; ISAAC, O.; MUTAHAR, A. M. Perspective of Yemeni students on use of online learning: Extending the information systems success model with transformational leadership and compatibility. *Information Technology and People*, 2019, 33(1), 106–128.

ALORAINI, S. The impact of using multimedia on students’ academic achievement in the College of education at King Saud University. *Journal of King Saud University. Languages and Translation*, 2012, 24, 75-82.

ALQURASHI, E. Predicting student satisfaction and perceived learning within online learning environments. *Distance Education*, 2019, 40(1), 133-148.

AMIRTEYMORI, M. H. *Educational message design*. Tehran: SAMT, 2010.
ARROBA, J. & ACOSTA, H. Authentic Digital Storytelling as Alternative Teaching Strategy to Develop Speaking Skills in EFL Classes. LEARN Journal: Language Education and Acquisition Research Network, 2021,14(1), 317-343.

BADDELEY, A. Working memory. Science, 1992, 255, 556-559.

BANASZEWSKI, T. Digital storytelling finds its place in the classroom. Information Today, 2002. Available at: http://www.infotoday.com/MMSchools/jan02/Banaszewski.htm. Access: May 22, 2021.

BEHRANGI, M. & ASADI, A. Integrating MMB with picture word inductive model of teaching to teach English to junior high-school students. Quarterly of Education, 2008, 97, 9-27.

BIDMESHKI, M. The role of the story and its effect on children. The Second Festival of the Story of Intellectual Development of Children and Adolescents. Tehran: Iran, 2007.

BIJANI, H. & KHABIRI, M. Direct and semi-direct validation: Test takers' perceptions, evaluations, and anxiety towards speaking module of an English proficiency test. Journal of Language and Translation, 2017, 7 (1), 25-41.

BROWN, H. D. Teaching by principles. An interactive approach to language pedagogy (3rd ed.). White Plains, NY: Pearson Longman, 2008.

BURNS, A. & JOYCE, H. Focus on speaking. Sydney: National Centre for English Language Teaching and Research, 1997.

BURNS, A. & RICHARDS, J. C. The Cambridge guide to second language teacher education. Cambridge: Cambridge University Press, 2009.

BYGATE, M. Theoretical perspectives on speaking. Annual Review of Applied Linguistics, 1998, 18 (1), 20-42.

CHANAY, A. L. & BURK, T. L. Teaching oral communication in grades K-8. Boston, MA: Allyn & Bacon,1998.

CHUANG, W. & KUO, F. Improving reading comprehension among Taiwanese EFL young learners using digital stories. Proceedings of 2013 Asian Literacy Conference (pp. 134-146). Indonesia, 2013.

CLARKE, R. & ADAM, A. Digital storytelling in Australia: Academic perspectives and reflections. Arts and Humanities in Higher Education, 2011,11(1-2), 157-176.

EISSA, H. M. S. Pedagogic effectiveness of digital storytelling in improving speaking skills of Saudi EFL learners. Eissa, H. M. S. (2019). Pedagogic effectiveness of digital storytelling in improving speaking skills of Saudi EFL learners. Arab World English Journal, 2019, 10(1), 127-138.

ELAISH, M. M.; SHUIB, L.; GHANI, N. A. & YADEGARIDEKORDI, E. Mobile English Language Learning (MELL): a literature review. Educational Review, 2019 (March 4), 71, 257-276.

ELLIS, R. Task-based language learning and teaching. Oxford: Oxford University Press, 2003.

FARDANESH, H. Theoretical foundations of educational technology. Tehran: SAMT, 2013.

GAN, Z. Extroversion and group oral performance: A mixed quantitative and discourse analysis approach. The Hong Kong Institute of Education, 2008, 23 (3), 24-42.

GILABERT, R. The simultaneous manipulation of task complexity along planning time and (+/- Here-and-Now): Effects on L2 oral production. In M. Del Pilar Garcia-Mayo (Ed.), Investigating tasks in formal language learning (p. 44-68). Clevedon: Multilingual Matters, 2007.
GLAZER, J. & GIORGIS, C. Literature for young children. Ohio: Pearson Merrill Prentice Hall, 2005.

HARMER, J. The practice of English language teaching. London: Pearson, 2009.

HARTINGER, J. Possible Limitations and Potentials of Digital Learning Material for Refugees. Verbum et Lingua, 2018,11, 25-42.

HINKLE, E. Current perspectives on teaching the four skills. TESOL Quarterly, 2006,40(1), 63-94.

HOSEINI, Z. Principles of storytelling and their concept. Tehran: Foundation of Islamic Wisdom Sadra, 2005.

HUNG, C. M.; HWANG, G. J. & HWANG, I. A project-based digital storytelling approach for improving students’ learning motivation, problem-solving competence and learning achievement. Educational Technology & Society, 2012,15(4), 368-379.

JURKOVIČ, V. Online informal learning of English through smartphones in Slovenia. System, 2019, 80, 27-37.

KAJDER, S. B. Enter here: Personal narrative and digital storytelling. English Journal, 2004, 93(3), 64-68.

KALLINIKOU, E. & NICOLAIDOU, I. Digital storytelling to enhance adults’ speaking skills in learning foreign languages: A case study. Multimodal Technologies and Interaction, 2019,3(3), 59.

KAWAUCHI, C. The effects of strategic planning on the oral narratives of learners with low and high intermediate L2 proficiency. In R. Ellis (Ed.), Planning and task performance in a second language (p. 143-164). Amsterdam, PA: John Benjamins, 2005.

KESHTA, A.S. & ABD AL-RAHMAN, A.S.K. The effectiveness of using storytelling technique in enhancing 11th graders’ listening comprehension sub-skills in Middle Gaza Governorate. Unpublished MA thesis, The Islamic University - Gaza, 2010.

KHABIRI, M. & LAVASANI, M. A collaborative approach to autonomy: Does it improve EFL learners’ oral proficiency? World Applied Sciences Journal, 2012, 20(9), 1293-1299.

KHANY, R. & GHOREYSHI, M. The nexus between Iranian EFL students’ big five personality traits and foreign language speaking confidence. European Online Journal of Natural and Social Science (special Issue on teaching and learning), 2013, 2 (2), 601-611.

KOOSHA, B.; KETABI, S. & KASSAIAN, Z. The effects of self-esteem, age, and gender on the speaking skill of intermediate university EFL learners. Theory and Practice in Language Studies, 2011,1(10), 1328-1337.

KOWSARY, M.A. & ZOLFAGHARKHANI, M. The Relationship between Reading Aloud Strategies and Comprehension among the Iranian EFL learners in Pre Intermediate Levels. Studies in Literature and Language, 2013,6(1), 74-77.

LOTFIPOUR-SAEDI, K. Suggestions toward some discourse-analytic approaches to text difficulty: with special reference to ‘T-unit configuration’ in the textual unfolding. Iranian Journal of Language Teaching Research, 2015, 3 (1), 1-18.

MALMIR, A. & SHOORCHEH, S. An investigation of the impact of teaching critical thinking on the Iranian EFL learners’ speaking skill. Journal of Language Teaching and Research, 2012, 3 (4), 608-617.
MAYER, R. E. The promise of multi-media learning using the same instructional design methods across different media. *Learning & Instruction*, 2003, 13(2), 125-139.

NOWICKA, A. & WILCZYŃSKA, W. Authenticity in oral communication of instructed L2 learners. In M. Pawlak, E. Waniek-Klimczak, & J. Majer (Eds.). *Speaking and instructed foreign language acquisition* (pp. 24-42). New York: Multilingual Matters, 2011.

RICHARDS, J. C. *Teaching listening and speaking: From theory to practice*. Cambridge: Cambridge University Press, 2008.

ROBIN, B. R. Digital storytelling: A powerful technology tool for the 21st century classroom. *Theory into Practice*, 2008, 47(3), 220-228.

ROSSITER, M. & CLARK, M. C. *Narrative and the practice of adult education*. Malabar, FL: Krieger, 2007.

SARI, F. M. & WAHYUDIN, A. Y. Undergraduate Students’ Perceptions toward Blended Learning Through Instagram in English for Business Class. *International Journal of Language Education*, 2019, 3(1), 64-73.

SOURÉSHJANI, K. & ETEMADI, N. Listening comprehension success among EFL preschool children using internet-based materials. *Journal of Social Sciences and Humanities*, 2012, 7(1), 243-251.

SPOLSKY, B. *The Cambridge handbook of language policy*. Cambridge: Cambridge University Press, 2018.

VERCELLOTTI, M. L. The development of complexity, accuracy, and fluency in second language performance: A longitudinal study. *Applied Linguistics*, 2015, 36 (2), 1-25.

VERDUGO, D. R. & BELMONTE, I. A. Using digital stories to improve listening comprehension with Spanish young learners of English. *Language Learning Technology*, 2007, 11, 87-101.

WILLIS, J. & WILLIS, D. *Challenge and change in language teaching*. London: Heinemann, 1996.

YANG, Y. C. & WU, W. I. Digital storytelling for enhancing student academic achievement, critical thinking, and learning motivation: A year-long experimental study. *Computers & Education*, 2012, 59(2), 339-352.

YANG, Y. T. C.; CHEN, Y. C. & HUNG, H. T. Digital storytelling as an interdisciplinary project to improve students’ English speaking and creative thinking. *Computer Assisted Language Learning*, 2020, 1-23.

ZAREI ZAVARAKI, E. & JAFARKHANI, F. Multimedia and its function in special education. *Exceptional Education*, 2009, 98&99, 22-30.

ZUCKERMAN, M. *Psychology of personality*. Cambridge: Cambridge University Press, 2005.
Digital storytelling has been around in foreign language contexts for at least two decades and showed to be a promising technique for teaching different language skills. This study aimed at investigating the effect of using two types of digital storytelling, i.e. asynchronous and synchronous digital storytelling, on the EFL learners’ speaking performance in terms of accuracy and fluency. To this end, a quasi-experimental design with an experimental and a comparison group was devised. Sixty-five intermediate EFL learners were conveniently selected based on their scores on Oxford Placement Test. The speaking module of Preliminary English Test (PET) was used to measure the participants’ speaking accuracy and fluency before and after the intervention. The results of the study indicated that both groups made a significant improvement after the course. Nevertheless, the asynchronous digital storytelling group outperformed the synchronous one after the intervention.

Keywords: Accuracy. Asynchronous. Digital storytelling. Fluency. Synchronous.