Choose Your Own Adventure: The Evolution of Digital Interactive Fiction and Its Use in Language Pedagogy

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Abstract
Interactive fiction, where learners are actively involved in the creation of the narrative, is one of the least explored areas. Taking inspiration from ‘Choose Your Own Adventure’ books popular in the 1970s, these narratives require readers to choose their own paths which determine the outcome of the narrative. With the rise of digital modes of interaction, these narratives found their way to various virtual environments available today. This article explores the various forms of digital interactive fiction over the past decades and places them into six major categories: online interactive novels, text-based games, mobile application-based interactive fiction, interactive films, voice-based interactive fiction, and Artificial Intelligence powered text adventures. The article discusses how each of these varieties of digital interactive fiction can become a powerful tool to encourage learner interaction with narratives in the target language and how language educators can use them.

Keywords: Digital interactive fiction, artificial intelligence, task based language teaching, english language education.

Introduction
Narratives are a part of life and one of the ways in which language is produced and interpreted. It has been common practice for centuries to use narratives in a new language in the language classroom and have learners engage with them, to develop their language skills. Fictional narratives, in addition to introducing learners to new vocabulary,
grammatical structures, phrases, etc., also introduce learners to the social and cultural dimensions of language use. In addition to the conventional words-on-paper format of fictional narratives, a number of digital works have also become available. While online websites that provide text-based narratives that are closer to conventional paper-based narratives, newer modes of narration such as audio-based digital audiobooks, animated and non-animated video-based narratives, and game-based digital narratives such as video games have also found their way into the language classroom. These digital fictional modes have made ESL classrooms truly multi-modal and fun for learners.

The narratives that are commonly used in such language classrooms, however, follow a linear plot or storyline. That is, they progress from a beginning to an end, with the same incidents or actions being described in the same chronological order with no change in every instance they are encountered. A relatively unexplored area is the use of a particular kind of narrative that doesn’t follow such a static chronological flow, known as interactive fiction.

Interactive Fiction, commonly abbreviated to IF, is a narrative where the characters or the environment in which the story takes place yields some level of control to the audience (the reader, the viewer, or the listener), i.e., in our case the ESL learner. In most cases, the story or the narration pauses and requires the audience to make a decision based on the information that is provided, which then determines the progression of the narrative from thereon. Such decision points require the audience to actively play a role in the narration. This however does not convey in any way that reading, viewing, or listening to non-interactive fiction has learners as passive recipients of the information. While audiences of any kind of fiction are involved actively in the processing of the language they encounter and constructing meaning out of it, interactive fiction takes the role of the audience one step forward in so far as they also get to decide how the story progresses.

After taking a look at the evolution of IF over the past decades, the article takes a closer look at the digital modes of Interactive fiction and classifies it into six categories, each of which will be introduced in detail by providing some examples of existing IF that may be made use of appropriately by educators in their respective contexts. In each of these six discussions, the article aims to shed some light on the modalities of
each kind of digital IF, the skills or sub-skills of the English language that could be developed or improved through their use as well as their delimitations.

Theoretical Frameworks

A pertinent question regarding the use of digital interactive fiction in an ESL classroom is with regard to how it can be of benefit to the learner. There are a number of ways in which the choice of digital IF may prove to be beneficial to learners compared to the usual fictional narratives that ESL textbooks offer today. Benjamin Bloom’s (1956) taxonomy of educational goals offers six levels of human cognition that have been visualized in Figure 1.

Figure 1. Bloom’s Taxonomy

While the lower three rungs of Bloom’s taxonomy are associated with lower-order thinking skills, the upper three rungs are associated with higher-order thinking skills. The use of digital interactive fiction in English requires learners to analyse the story that has already been presented, evaluate the different possibilities and outcomes of their choices in the story, and then take part in the creation of the narrative by making choices. This helps learners develop higher-order thinking skills that they may then apply to real-life situations. Shelton (2005) and Kee as well as Vaughan, and Graham (2011) discuss studies where interactive fiction of various kinds have been incorporated in education. Though these studies are restricted to one specific category of IF, do not address
the newer trends in IF, and are focused on Western contexts of education, these studies do highlight some of the possibilities and advantages of using digital IF for language learning. These non-linear narratives also provide an adaptive and individualized learning environment which digital educational courseware creators strive towards as suggested by Kennedy and Naught (1997).

The Evolution of Digital Interactive Fiction
The ways of employing different narratives in the language class have undergone significant change over time. As educational technology (commonly known as EdTech) becomes more advanced and newer modalities are added to technological tools for education, this paves the way to newer possibilities for their use in classrooms are thrown up, revealing their limitations and creating novel needs which, in turn drives further growth of EdTech as depicted in Figure 2.

Figure 2. Cyclical Growth of EdTech

Keeping this cyclical development in mind will help us better understand the evolution of digital interactive fiction, the beginning of which can be traced back to the ‘Choose Your Adventure’ novels that first appeared in the 1970s, with the advent of Edward Packard’s (1976) *Adventures of You*, written for children between the ages of 7 to 14 years. The early physical book versions of this kind were formatted so that readers were given a decision to make after every few pages of reading, with 3-4 options to choose from, each leading to a different storyline.

The physical versions of these books resulted in large book sizes, with several sections of text remaining unused unless the reader chose to reread the text multiple times while making different choices each time. As the 1970s were also the time that saw a rapid growth in technological advancements, soon interactive fiction found its way onto digital
platforms. Initially, computers were only designed to take in textual input and display textual output. Hence the first versions of digital interactive fiction were purely text-based, with the computer screen displaying a section of a story as text followed by a request for textual input to the reader, which would determine which section of the story would be displayed next.

With the growth of the internet and advent of personal home computers in the 1980s, digital interactive fiction became available as online versions, hosted on websites, which moved a little beyond plain text. With the addition of multimedia elements such as pictures, audio, animation, etc. online interactive novels brought multimodality to IF with simple to use user-interfaces when compared to its purely text-based predecessor. This then transferred onto smart devices such as smartphones and tablet computers of the 21st century, with touch screen based input facilities and mobility of cell phone applications, while retaining the multimodality of online interactive novels.

The more recent decade brought with it the rapid growth of Artificial Intelligence technology that has found its way into the EdTech sphere also. This technology has been incorporated across different domains of inquiry and has made its way to digital application of various types, one of which is digital interactive fiction. One type of digital interactive fiction is Artificial Intelligence powered text adventures. Unlike the text based adventures discussed earlier, these games don’t restrict users to a specific number of options to choose from. They give users the freedom to enter their own responses as text which is then analysed by the computer, and then a narrative is presented by the computer according to the users’ input. This creates almost an infinite number of possibilities for learners to explore, which makes the text adventure more engaging and interesting when compared to its non-AI based predecessor.

Another category of digital interactive fiction that makes use of AI based technology is voice-based interactive fiction. This category allows voice-based interaction which uses speech recognition and Natural Language Understanding (NLU) where the computer or smart device provides an audio narration of the story. Then, at specific decision points, the user’s speech is recorded, and this speech is analysed to identify the user’s decision.

Yet another area of technological advancement that this decade saw
is the rise of Over-The-Top media service, commonly known as OTT platforms such as Netflix, Amazon Prime, etc. As these platforms gained momentum over the past few years, there have been many attempts to create newer and more interactive visual media for different age groups on these platforms. Some of them have created interactive films specifically for younger age groups in the form of animated movies that change their course based on the user’s choices. This new type of interactive digital fiction allows immersive viewing experiences that can be made use of by language instructors to enhance the language learning experience.

To see how each of them can be used productively in the ESL classroom, we will now look at the following six categories closely:

i) Text-Based Games
ii) Online Interactive Novels,
iii) Mobile-Application-Based Interactive Fiction
iv) Artificial-Intelligence-Powered Text Adventures
v) Voice-Based Interactive Fiction
vi) Interactive Films

Text-Based Games

Text-Based games, often synonymously used with interactive fiction before the development of the more recent varieties of digital IF, are perhaps the most well-known varieties of the same. They usually consist of text-based story sections presented on a computer screen to the audience and offer a limited number of options for users to choose from. However, in recent times, there have been some exceptions to this purely text-based interaction with the inclusion of recorded voiceover narrations, background audio clips providing sound effects, and the inclusion of visual data such as images or short video clips, though this category of digital IF still remains mostly text-based. A few examples of such games include Plotkin’s (2003) game named The Dreamhold and Zork created by Anderson et al. (1979) which were originally introduced as games for the personal computer. Later they migrated to a browser supported version that is hosted online. These text-based games provide opportunities for learners to read text. Therefore, they also provide opportunities for designing activities to develop the various sub-skills
of reading and literary enquiry. However, since these are not always multimodal, and only take a limited number of responses as input, the scope for developing other language skills such as speaking, listening, or writing may be limited.

In addition to the readily available versions of text-based games, it is also possible for teachers to create their own versions using web applications like Google Forms that allow users to control the flow of information displayed based on the responses provided. By including content from different subjects, Content Language Integrated Learning (CLIL) can also be made possible in text-based games. For example, if we are teaching history through a digital interactive narrative, learners might be able to take a closer look at key historical events from varying perspectives. Taking it further, teachers may design tasks that enable learners to create their own text-based games as categorized by Prosser (2014).

**Online Interactive Novels**

Interactive novels are similar to text-based games, except that these were created specifically for online access and are always hosted on websites. Also known as ‘wovel’, a portmanteau for ‘web novel’ coined by Underland Press which published the first wovel by Burke (2008) named *The Living*, these novels are serially published by authors with one section published in each instalment followed by a voting process by readers. Based on the responses provided online via votes, the author extends the story and publishes the next instalment, making it an interactive long-term reading experience. However, these works are yet to become available for younger audiences and are quite rare to find nowadays, owing to the complexity of the reading process and the long-term commitment that it requires. Such works may be used for advanced level readers in the practice of andragogy. Alternatively, the teacher of language classes may initiate the creation of a ‘wovel’ on the school or class website or blog, with instalments added periodically and students encouraged to participate in a weekly poll to decide its future progression. In addition to developing reading skills, this may also help develop life-long reading competencies and habits among learners and make reading a social and collaborative process. If students take turns writing subsequent sections of the novel themselves, then it can also facilitate peer-evaluation and improvement of writing skills.
Mobile-Application-Based Interactive Fiction

Digital IF that is available in the form of a downloadable and installable application for mobile phones and other smart devices fall under this category. The major change that this brings to the process of interacting with a digital IF is the multimodality that it offers. With colourful illustrations, background sounds, dynamic stories interwoven with games, puzzles, or activities, these applications create entire virtual worlds of fantasy that learners can place themselves in. A great example of this kind of an application would be Pepi Play’s (2021) *Pepi Wonder World: Islands of Magic Life* which immerses learners in a journey that allows them to discover new locations in the imaginary world, interact with over two hundred different characters of their choice and follow instructions to complete fun quests or activities.

This genre of digital IF is closely related to pretend play, which has been associated in past studies with the improvement of social, emotional, and cognitive development (Fein, 1981). This category may work best for younger learners, who have shown greater levels of engagement with such multimodal online experiences (Kaminski, 2019), and may not be as engaging for older or more proficient language learners. Teachers using such apps may be limited to trying to identify appropriate apps that are readily available at app stores on smart devices.

Artificial-Intelligence-Powered Text Adventures

As mentioned earlier, AI brings infinite possibilities to your digital adventures in IF, rather than constraining you to a limited number of options. Through the use of AI models, the device is now capable of understanding written text input given by users and producing a human-like response to it. For example, in applications like Dimitrii Ishchenko’s (2021) *AI Tales* and Justin Glibert’s (2020) *The Infinite Story*, users can create an endless story of their own, and even sequels to their stories as they play the role of the protagonist. Though this is primarily a text-based application, it does allow some pictures or sounds in the narration to avoid monotony. In addition to immersing learners in the narrative and giving almost complete autonomy to learners, this category of digital IF also brings in problem-solving skills. It also introduces new vocabulary to learners as they navigate through the narration. However, as the teacher has little to no control over the course of the narrative in
such a digital environment, it is vital that teachers actively engage with learners during the course of interaction, if it is being used in a language classroom.

**Voice-Based Interactive Fiction**

Voice-based interactive fiction uses AI-based Natural Language Understanding (NLU) and speech recognition to take inputs from the user in the form of speech. It also converts written text to sounds and produces an audio narration of the story sections. While the machine’s rendition of the story may not sound exactly like a human being, it still manages to bring a conversation like interaction between the machine and the learner. Given the rapid advancements in speech production, AI Assistants that are available on smart devices such as Amazon’s Alexa or Google’s AI Assistant are inching closer to making these guidelines possible. Therefore, they can be used to develop listening comprehension and sub-skills such as listening for specific information, listening for gist, etc. Since learners must answer the ‘voice bot’ orally, and ensure that it recognizes their words or sentences, they can also learn to monitor their own speech and pronunciation. One example of such a voice-based IF that is available is the *Chota Bheem Adventures*, created by Green Gold Animation (2021) on Amazon’s Alexa which is specifically geared towards a young Indian audience.

**Interactive Films**

Interactive films include movies that are videos that pause at specific points in the story for viewers to click on one of the options provided which then triggers the appropriate movie clip that is in line with the user’s choice. This category appears to have taken inspiration from a combination of interactive narratives and video games. Released on OTT platforms recently, the animated versions of these films target younger audiences and are often based on pre-existing cartoon characters and narratives. For example, *Minecraft Story Mode* by Oswalt et al. (2015) and *Last Kids on Earth* by Wolfhard (2021), available in the Netflix OTT platform, are some of the first in this category, of which we may see more in upcoming times. These films are excellent tools to help develop listening comprehension as the characters in the film provide the narration and choices via dialogues, and often also provide the pros and cons of each choice to help viewers analyse specific situations and
make informed choices. Therefore, they can greatly aid in improving learners’ analytical skills. When viewed with subtitles, they can also help learners improve their pronunciation skills by matching the words they read to the words they hear. Another way of using interactive films in language classes would be to get learners to shoot their own video clips and combine them to form an original interactive fiction through Google Forms, which can be a collaborative task that uses role play and dialogue practice.

**Teachers’ Role in Productive Use**

1. **Determining Objectives.** Before choosing a particular kind of IF for use in the classroom, teachers must first ascertain their learning objectives. This will then help determine whether IF is the best tool for use to achieve those objectives, and which specific category to use. The selection must be specifically oriented towards these specific objectives.

2. **Selection or Creation.** IF can be selected by the teacher by carefully considering the objectives as well the specific features that each category of IF mentioned above provides. If teachers are unable to use the readily available forms of IF, it is also possible for teachers to create their own tailor-made ones using Google Forms or other online tools to suit their objectives as mentioned earlier. Collaborative tasks which involve learners in the creation of IF can also be considered based on the objectives.

3. **Administering with Instructions.** Before administering IF in the class, teachers must provide all pertinent instruction to learners regarding the use of IF, including a discussion on why the particular IF is being used, to provide motivation and direction.

4. **Cultural, Contextual, and Other Considerations.** Different IF available may not always be culturally appropriate for all learners. Based on the specific context in which it is being used, teachers must ascertain the appropriacy of IF being used or consider creating their own one for use.

5. **Level of Complexity.** Teachers also have to keep in mind the level of language used in the IF and the language proficiency of the learners. Choosing IF of appropriate language complexity allows an optimal level of language input as discussed by Krashen (1985).
Conclusion

In this article, we have tried to explore the newer and more sophisticated types of digital interactive fictions and their evolution from the paper-based ‘Choose Your Own Adventure’ books. We have also presented a categorisation of digital IF, by looking at the modalities that they offer, the skills or sub-skills that may be enhanced through their use, and some ways in which they can be used in classrooms. Since this article has explored a new area and there remain significant knowledge gaps further research must aim to address these in the coming years as there are several paths one may take to further this discussion.

References

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