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Video Game Meets Literature: Language Learning with Interactive Fiction

Joe PEREIRA
| British Council, Porto

Abstract | The evolution of language teaching approaches and advances in technology have brought with them changes in how and where languages are learned.

One way in which language can be practised in a highly empowering and engaging way is through digital game-based learning (DGBL). Interactive Fiction (IF) is a text-based genre of video game which blends literature and puzzle-solving in a simulated world where the player becomes the protagonist of a narrative and controls her actions, seeing the world through her eyes. IF games respond to natural language input in a meaningful way, making them a unique form of non-linear participatory story-telling. Being both a digital game and a form of electronic literature, playing/reading IF can provide an extremely motivating, engaging and creative language learning experience, implementing all four language skills and many cognitive processes – both in and beyond the classroom.

Key words | Interactive Fiction, text adventure, video game, digital game-based learning, digital game-based language learning, literature, computer assisted language learning

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Video Games Are Not Fun

Video games, often called digital games by researchers and educators, are serious. While long understood by those who play them to be much more than the generally perceived 'waste of time', 'outlet for aggression' or an activity 'only enjoyed by teenage boys', they have now become a socially accepted pastime, one of the most lucrative entertainment industries in the world (ESA), and are ever more becoming recognised as valid educational tools. But before we look at why digital games are so engaging and how they can be used for learning, let us first consider what a 'video game' is. According to Botturi and Loh, "the term is used broadly to include all digital games playable on a device with a video screen, which would include computers, games consoles, cellular phones and mobile devices" (1). But what is a game? Arriving at a clear definition of 'game' is universally considered to be a difficult task, given the multiple definitions found in dictionaries and the way 'play' and 'game' are used in the English language and in diverse fields of study (Salen and Zimmerman 81). Huizinga in his seminal work *Homo Ludens: A Study of the Play-Element in Culture* provides us with a definition of 'game' that is interchangeable with the meaning of 'play': "A voluntary activity or occupation executed within certain fixed limits of time and place, according to rules freely accepted but absolutely binding, having its aim in itself and accompanied by a feeling of tension, joy, and the consciousness that it is 'different' from 'ordinary life'" (28). Salen and Zimmerman have gone further and succinctly constructed a definition of game which is more comprehensive in scope, basing it on the linguistic use of the words 'game' and 'play', while taking into account their meanings in French and German. It is additionally an amalgamation of eight definitions from various fields of study including two from veteran video game designers: "A *game* is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (81). More recently, Whitton has proposed a more open definition of 'game', which includes the following ten characteristics: Competition, Challenge, Exploration, Fantasy, Goals, Interaction, Outcomes, People, Rules and Safety (23). In her much-hyped book *Reality is Broken*, alternate-reality game designer Jane McGonigal takes a more simplified approach and suggests a four-point definition: Goal, Rules,

Feedback System & Voluntary Participation (21). The one element that perhaps surprisingly seems to be missing in every definition of 'game', however, is what many may think to be the most crucial: 'fun'. Crawford illustrates the relationship between game, play and fun (34):

- 'Game' is the formal activity that you perform.
- 'Play' is the actual behaviour that you engage in.
- 'Fun' is the experience or emotion that you derive from that behaviour.

"This relationship leads to a simple conclusion: games and play must lead to fun. If a game isn't fun, it's a bad game. It sounds perfectly logical, and it is flatly wrong" (34). He goes on to explain that

> the problem with this reasoning lies in the fact that the words "game", "play," and "fun" are in flux. They have historically been associated with the behaviour of children, yet in the last century, with the creation of significant amounts of leisure time, adults have taken up play as well. This new, adult kind of play is still play by any definition, but the word "fun" doesn't quite fit the adult's experience. (34)

Michael and Chen state that 'fun' is ". . . essentially a positive feedback mechanism to get us to repeat the activity over and over . . . it is not an ingredient or something you put in. Fun is a result" (20). It can be said then, that fun is not a required component of a game, as many games are not 'fun' per se, nor can 'fun' be designed into a game, as what is 'fun' for one person might not be 'fun' for another. Therefore, in order to motivate players to invest time in play and reach a plateau of heightened engagement where they are completely focused on achieving their goals (often called 'the Flow experience' [Csikszentmihalyi]), video game designers must provide mechanisms that produce a positive emotional response from the player. To more easily understand why players are drawn to certain games and not others, the 'aesthetic principle' of the MDA framework (Hunicke, LeBlanc, and Zubek 2), also known as LeBlanc's taxonomy, suggests '8 Kinds of Fun' which can be found in video games:

- Sensation: Game as sense-pleasure;
- Fantasy: Game as make-believe;
- Narrative: Game as unfolding story;
- Challenge: Game as obstacle course;
- Fellowship: Game as social framework;
- Discovery: Game as uncharted territory;
- Expression: Game as soap box;
- Submission: Game as mindless pastime.

It is through the combination of these various triggers that a game allows a player to move from initial curiosity to becoming completely engaged, and according to the positive psychology theories of McGonigal, 'to feel good' (28). Of course, the specific source of this 'good' feeling is subjective and depends on the player as well as the game being played, but in video games, 'feeling good' can come often from:

- Taking on the identity of someone else and controlling their actions
- Being involved in the telling of a story
- Being put in a situation you would not normally be in (yet being safe)
- Facing challenges and having to overcome them – and getting instant feedback

The characteristics of digital games which make them motivating to play and engaging enough to warrant continued play, are also what make them potentially useful learning tools.

Digital Game-based Learning

The problem with this is that because we play games that provide us with the sensations that make us 'feel good', they are often seen in a less serious light, as work and play, as the saying goes, do not mix. Contrary to any negative associations, James Gee, a noted linguist and pioneering advocate of the use of digital games as a form of improving literacy, notes their

pedagogic value: "When we think of games, we think of fun. When we think of learning we think of work. Games show us this is wrong. They trigger deep learning that is itself part and parcel of the fun. It is what makes games deep" (Gee, *What Video Games* 43). Through this pedagogical lens, Gee goes on to re-define a 'digital game' as being: "a play-based, well-designed, problem-solving experience meant to create motivation, engagement, and often creativity" and adds that "humans learn best from well-mentored, guided experience centered on interesting problems to solve, clear goals, copious feedback, and a relatively low cost for failure. This is what good games supply" (Gee, "Big 'G' Games").

Despite still being considered by many educators to be a waste of time and not fruitful to learning, the educational benefits of video games and their possible use in educational contexts have been the target of a great deal of research in the last decade (Gee, *What Video Games*; Whitton; Baek and Whitton). Indeed, the quantity of this research has grown so much that the fields of 'game studies', 'digital game-based learning' and 'serious games' have become respected disciplines with dedicated academic journals, professional associations, conferences and websites.

Digital Game-based Language Learning

While the literature on using digital games for structured learning across the curriculum is vast, some recent research has touted the potential of the affordances of digital games specifically for language learning (Reinders and Wattana; Reinders; Cornillie *et al.*). But despite the literature on digital game-based learning (DGBL) giving evidence of the development of cognitive and language skills through the playing of video games in and outside the classroom, can *any* video game really be used for language learning? From my own experience, I would say yes, as I will subsequently defend.

The field of using computers specifically for language learning is known as Computer Assisted Language Learning (CALL). Beatty defines CALL as: "learning language at the computer either as a direct activity through structured lessons or during an activity peripheral to the study of

language but that, nonetheless, promotes language learning awareness and acquisition" (7). When one traditionally thinks of 'language learning materials', what springs to mind are most certainly course books, photocopiable worksheets and activities, flashcards, pictures, recorded conversations, songs and video clips. Tomlinson defines 'language learning materials' as: "anything which is used by teachers or learners to facilitate the learning of a language . . . deliberately used to increase the learners' knowledge and/or experience of the language" (2). As both of these definitions do not only include that which is solely developed for language learning, but also encompass generalised computer-based activities and authentic and unscripted real-world objects, they may, therefore, also include commercial off-the shelf (COTS) computer software and video games.

Digital games can be used for language learning in two ways:

1. Language is provided by the game itself during game-play, which learners must interact with in order to make progress through it and, ultimately, reach a successful conclusion. This is done by reading and/or listening to information provided by the game, which gives back-story, details of various game-specific statuses or clues towards immediate goals.

2. The game does not inherently provide the target language, but promotes language use *around* game-play. In this way, a digital game can be used as a jumping-off point for language use, as would any other language learning material. In most cases, in order to implement digital games in the classroom which have not have been designed specifically for learning purposes (dubbed 'serious games' [Michael and Chen 46]), it is necessary to provide the learners with a series of pre, while and post tasks to keep the game-playing activity aligned with the expected learning goals (Whitton 90). Through pre, while and post-playing tasks, an infinite number of activities can be implemented focusing on all four language skills, vocabulary, discrete grammar points and linguistic functions.

As an example:

Game: Portal (A first-person shooter game which focuses on using physics to solve puzzles.)

Skill: Speaking

Language Focus: vocabulary, verb tenses, modal verbs

Task: a pre-playing discussion based on the topic of the game (the future, technology, etc.)

Procedure: show a screenshot, a trailer of the game, or the introductory chapter of the actual game. Without actually playing the game, learners engage in a discussion led by the teacher on what they have seen/heard. Past tenses are used to recount what was seen, present tenses to narrate the happenings as they occur, future tenses to make predictions about will happen before watching. Modal verbs of speculation can be used to make hypotheses.

A while-playing task (where learners actually play the whole/parts of the game) might involve note-taking, answering comprehension questions, or a group/pair-focused information gap-type task. While-playing tasks will also usually benefit from natural unscripted discourse between players (this will be explained further on).

After having played the game, a post-playing task might include a focus on form activity based on happenings in the game, such as using the third conditional structure: "If the woman hadn't found the device, she wouldn't have escaped the cell", or a creative writing activity. In this way, practically any game or game genre can be used for language learning (even a game as basic as Pac-Man; for giving directions or using prepositions of place). Many digital games can more clearly be used for language learning because they provide large amounts of text or audio output, while some game genres additionally provide computer-mediated language interaction with other players, either through text-chat or voice-chat.

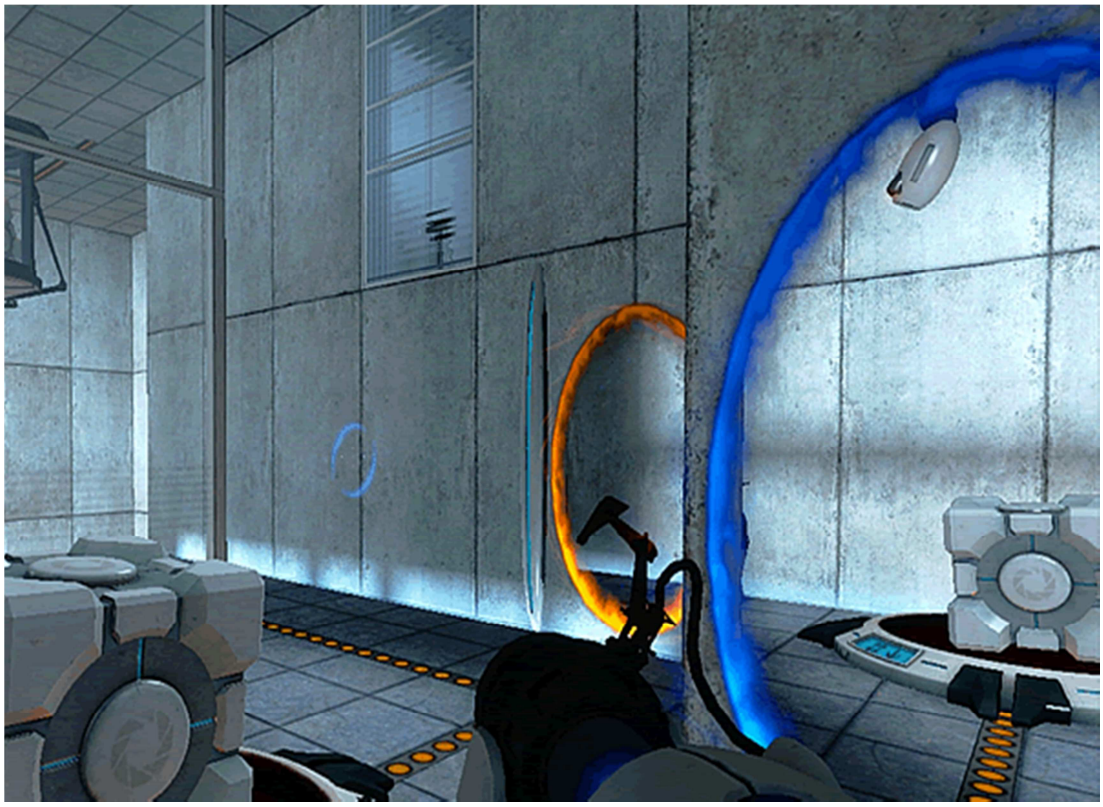

Figure 1. A screenshot from the sci-fi, physics-based *Portal* (2010)

Modern theories of second language acquisition (SLA) posit that language is learned by using it; more specifically, by making mistakes, noticing them, making the necessary changes to correct them and then using the language successfully without errors. For digital game-based language learning (DGBLL), the most complete source of input and output needed for SLA can be found in collaborative online games where a strong speaking and listening component exists alongside the need to read text and communicate via textual input. However, most games that provide opportunities for authentic language practise with other online players have open-ended, social-based gameplay, where the absence of short, meaningful language-based tasks to fulfil and the steep learning curve to play them, may make their integration into a structured language lesson difficult. In most digital games, reading or listening to the in-game text is not the main activity involved in the game-play, but mainly exists as a means to situate the player in the plot of

the game and to convey necessary information to her. The actual game-play is often based on turn-based tactical combat, real-time arcade action, point-and-click exploration, or resource management, to name just a few types – all of which require giving attention to graphical information and images on the screen, while using the mouse and keyboard as controllers in order to interact with the game. These types of games are certainly engaging, and in addition to putting into practise language and many life-long cognitive skills, they may allow for the unconscious assimilation of content knowledge, known as stealth learning (Gee, *What Video Games* 124). However, using language is the not the main point of these games, and interaction with the in-game text is often optional or can many times be glossed over without total assimilation. But for many teachers, beyond considerations of potential learner suitability or learning aim alignment, it is a question of confidence (or lack thereof) in being able to control/play video games which keeps many teachers from experimenting with digital game-based language learning (DGBLL) in the classroom – video games just look too complicated and many teachers feel completely out of their depth in their ability to play and relate to them in a classroom context. Granted, many modern games do have complex graphical user-interfaces or fiddly control mechanics (e.g. *Portal*), which add a learning curve to potential pre-existing technical considerations. However, not all video games look and behave the same. While the implementation of language tasks *around* gameplay is certainly in itself a worthwhile use of digital games as a language learning and teaching tool (see Mawer and Stanley's pioneering book on using digital games in the language classroom), there is a genre of video game that not only uses language to provide gameplay output, but it also solely uses textual input, and in natural language, as a vehicle for communicating with the game. In this way, beyond being able to implement additional language tasks *around* the gameplay, the gameplay *in itself* becomes a language-learning task. This text-based genre of video game, once popularly known as 'text-adventures', is called 'Interactive Fiction'.

Video Game Meets Literature

Interactive Fiction (IF), famously quoted as being "a crossword at war with a narrative" (Nelson 1), is a form of electronic literature, but also a digital game. It is a potential narrative – one that is shaped by the player as she explores and interacts with the game-world, and it is a series of logical puzzles within this world, which must be overcome in order for the narrative to advance. The narrative will only reveal itself with interaction from the player and unlike a traditional book, the narrative is not linear, but is brought to life and forks in whichever way the player decides to explore the game-world. As such, IF is a unique form of non-linear participatory storytelling. Montfort states that IF differs from other types of participatory storytelling such as Choose Your Adventure books and Hypertext fiction (which are often erroneously labeled as 'Interactive Fiction') due to its having the following characteristics (23):

- it is a text accepting and text generating computer program, and so can only be played on a digital device. It additionally understands natural language input (to an extent) and replies to this input in a meaningful way;
- it is a simulated world, which can be explored and interacted with and the player's actions has an immediate effect on that world;
- it is a potential narrative which is co-created by the reader, and her actions and choices will create a slightly (or sometimes completely) different narrative each time it is played through;
- it is a game, meaning that it is played voluntarily, has a specific goal, and has rules which must be followed.

IF, at its best, is both a rewarding reading experience and a challenging game. Using Emily Short's fractured fairytale masterpiece *Bronze*, a re-working of the Beauty and The Beast mythos, as an example, the IF game interface typically looks something like Figure 2.

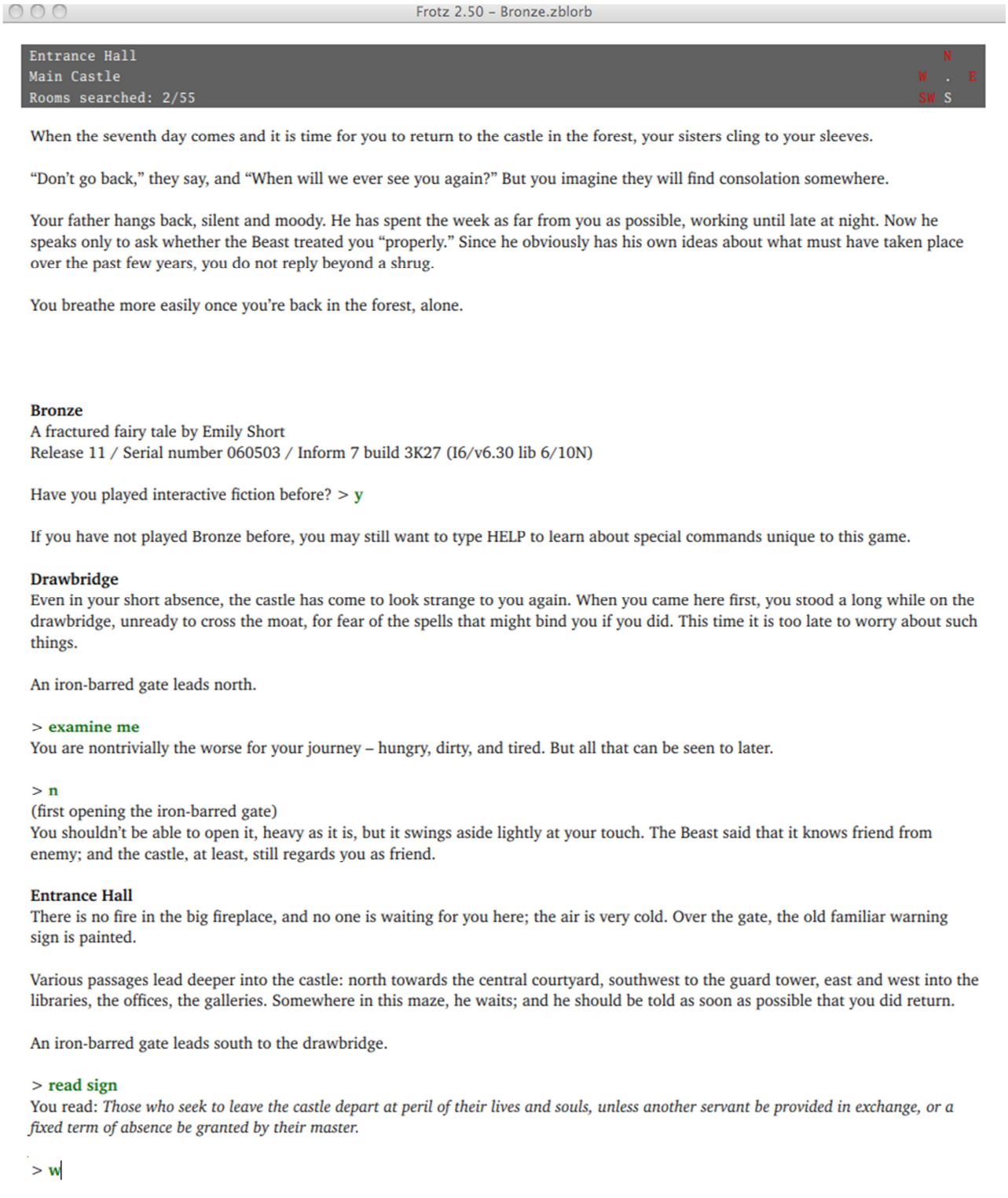

Figure 2. A screenshot from *Bronze*, by Emily Short

At the very top of the screen, the 'Status Line' traditionally presents information such as the current location of the protagonist of the story (i.e. you) and game-specific information such as a score, move or time counter. In the case of *Bronze*, the player is not only aided by being provided with a visual mini-map of possible exits from the current location (The Entrance Hall), but it also indicates which directions and rooms have yet to be visited for the first time (indicated in red). Unfortunately, not all IF games are as user-friendly as Short's games and the manual mapping of the landscape is often necessary to successfully play geographically complex IF games (those containing more than 5 or 6 locations). The space below the Status line is where the narrative comes alive. The name of the current location is shown in bold typeface and is followed by its description, what can be seen of note within it – including possibly important or useable objects, and any possible exits. Exploring these locations and interacting with the objects and people found in them is what produces new text, and in essence, creates the narrative. Narratives in IF are usually presented in the second person of the present tense so as to create a stronger connection between the reader and the protagonist through a more immersive and immediate reading experience. Murray likens this navigation of the simulated world to the dramatic happenings experienced by an actor in a theatre play: "You, as player/interactor, have walked into a dungeon that someone is sealing shut behind you! The moment is startling and immediate . . . You are not just reading about an event that occurred in the past; the event is happening now, and . . . it is happening to you" (81). The illusion that the reader, as the protagonist, is actually there in story becomes fortified even further as passive reading gives way to active participation from the reader.

The '>' symbol found after each textual exchange is called the 'command prompt' – it indicates that the game is waiting for input from the player. Most IF games will not produce further text unless the player gives the game a command. In IF, the reader must actively type in commands in natural English in order to have an effect on the game-world, thus triggering the textual output which creates the narrative. Commands are typically formed using a verb plus noun collocation or by using standard IF commands, such as LOOK or INVENTORY. While a simplified

form of language, this can nevertheless be considered a form of writing, argued by Pennington as being the process of externalizing one's thoughts (75).

A typical IF exchange might look something like this:

> **GO WEST** (or just **WEST** or **W**)

On the table in front of you is a silver bell. There seems to be something engraved on its side.

> **TAKE BELL**

You take the bell. It is much heavier than you imagined it would be.

> **INVENTORY**

You are carrying a silver bell.

> **EXAMINE BELL**

The engraved writing is in a language you do not know. Perhaps it is Elvish.

> **DECIPHER THE ELVISH ENGRAVING**

Sorry, I don't know what that means.

> **READ WRITTING**

Sorry, I don't know what 'writting' is.

> **READ WRITING**

You hopelessly try to pronounce the words, but you are unable to read the inscription.

> **RING BELL**

The bell starts ringing in your hand until it shakes so violently, you let it drop. The noise subsides upon impact with the floor and the bell becomes still. You smell brimstone in the air.

> **PICK UP BELL**

The bell has become so hot you cannot pick it up from the floor!

> **RING BELL**

You are not carrying the bell.

As can be seen in the exchanges above, the player's input meaningfully affects the state of the game-world. Player input which is understood and makes sense within the context of the

story/game-world produces new text, which becomes part of the narrative. An error message is produced if the game does not understand a command due to a spelling, syntax or vocabulary related error (as was the case with WRITTING), or simply because the action is not possible or irrelevant to the story. While modern IF games are able to understand many common verbs and their synonyms, they can't understand every word the player produces (as was the case with DECIPHER THE ELVISH ENGRAVING). Typing in an unknown verb or command results in an error message such as "I don't know how to …", "You can't do that", or even a contextual retort, proving that the game really is listening to what you are telling it! At this point, the reader will need to reformulate their command using different words, try something different altogether or continue exploring. A list of many common verbs and IF-specific commands can be found on the 'IF For Beginners' cheat sheet, shown in Figure 3.

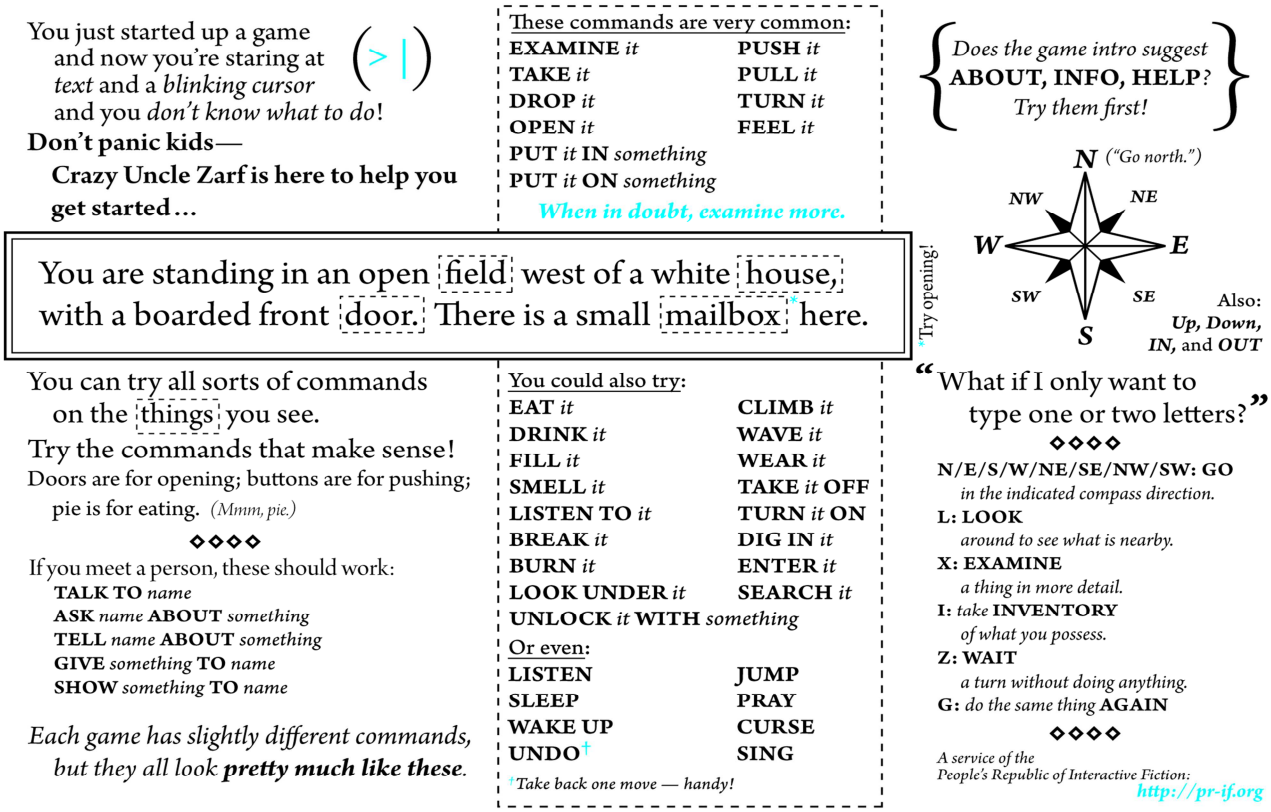

Figure 3.The 'IF for Beginners' cheat sheet (Plotkin and Albaugh)

Second-Person Thinker

IF does not merely involve exploring the virtual space inside the narrative by moving from location to location and examining and manipulating the objects found within them. What makes IF transcend beyond merely being a literary genre and offering a potentially interesting *reading* experience is that it is also a digital game genre, thus allowing for a potentially challenging *gaming* experience. The game element of IF exists in two distinct ways:

1. as the linguistic guessing game of communicating one's thoughts to the computer in a manner in which it will be understood;
2. in the form of logical puzzles embedded in the narrative, which need to be solved using critical and lateral thinking.

Puzzles in IF may be as straightforward as finding a key to unlock a door or they may be more abstract and involve understanding the specific rules governing the game-world and the objects found within it (e.g. learning how to use magic in a fantasy-themed IF work or manipulating a mechanical device in a sci-fi game).

This cognitive challenge involving the discovery of solutions to observational and mental problems is especially suited to the written medium, in contrast to the dexterity and reflex-based challenges of most graphics-based video game genres. As a result of this, the IF genre has been called "second person thinker" (Scott) (contrasting with the immensely popular first-person shooter genre) and contrary to many other game genres, is widely enjoyed by an older audience, as well as by physically-challenged and sight-impaired players. While primarily offering a sense of challenge to the player, puzzles also serve as pacing and gateway mechanisms in the narrative, thus ensuring that the player has assimilated all of the text and performed all of the required actions before being able to move on in the story.

Why Use Interactive Fiction for Language Learning?

Many learners do not think of reading for pleasure, especially in a foreign language, as a necessary way to improve their language skills, and even less as a worthwhile way to spend their free time. Reading is one of the more prominent skills involved in foreign language learning as it is a vehicle for introducing vocabulary, grammatical forms and cultural notions. Research has shown that reading is an interactive and parallel process involving 'top-down' and 'bottom-up' processes (Eskey and Grabe 223), concepts summarised as being "metaphors for the complex mental process of reading, top here referring to such higher order mental concepts as the knowledge and expectations of the reader, and bottom to the physical text on the page". Widdowson considers the act of reading "not as a reaction to the text, but as interaction between writer and reader mediated through text" (74). McKay further adds that this interaction "occurs on the linguistic and conceptual levels in that reading necessitates the ability to interact with a text by decoding the language and comprehending the concepts presented" (192). In other words, what the reader brings to the text as important as the text itself. Using our personal knowledge of the world to assist in constructing meaning in a given context is called using schemata, defined by Bartlett as "an active organisation of past reactions, or past experience" (201) and is an essential part of the reading comprehension process. The ability to activate schema has a tremendous impact on the understanding of a text or utterance as we constantly need to map what we read or hear to what we already know about it in order to form meaning. When there is mismatch between the text and our existing knowledge of the world during the top-down process and the decoding of words and understanding of meaning during the bottom-up process, this leads to non-comprehension. However, the only way to gain the linguistic knowledge and schemata needed to improve reading skills is by engaging in the actual process of reading (Day and Bamford). Many learners do not practice extensive reading and engage in schema-building outside the classroom, and, as a result, they are not very imaginative and have difficulties in thinking critically and laterally in order to solve logical problems – they are essentially unable to 'think outside the box'. It is for this primary reason of improving reading fluency that I use IF with

my learners. As a form of DGBLL, IF can provide an extremely motivating and engaging reading experience which may provide opportunities for the improvement of reading skills, and potentially contribute to better reading fluency – while at the same time building schema and scripts, and exercising important critical and lateral thinking skills. Furthermore, because the vast majority of IF is made available for free by its authors on the Internet and the technological resources needed to play it are negligible (any computer from the last 25 years or any mobile device will do), there is no real reason not to experiment using it with learners.

Interactive Fiction and DGBLL

Due to the interactive and challenging nature of the game-play, IF provides a potentially more engaging reading experience than can be found when using static text, and it has a truly authentic goal – to reach the end of the story. IF works exist in every literary genre and their level of challenge can range from very puzzle-focused to more narrative-focused and from multiple-location games requiring many hours to complete to single-room games, which can be finished in minutes. The variety of genres, challenges and literary styles found in IF make it a viable alternative to static texts for improving reading fluency and it is also an excellent tool for encouraging reluctant readers to embrace reading for pleasure, both in and out of the classroom. As it is a form of authentic literature IF might not be easily integrated into a syllabus based on discrete language points. However, IF can be used as any work of literature would be used in the classroom – to focus on a theme or topic, or for specific literary analysis. Because IF, like all digital games, provides instant feedback, it can be used for autonomous self-directed learning. Playing most IF requires understanding nearly all the words found in the text. Most words cannot be glossed over; not understanding them may simply not allow the reader to make further progress until their meaning has been made clear and the words have been acted upon. In this way, making progress through an IF game is clear evidence that the reader has understood the text by applying both bottom-up and top-down reading strategies. Desilets notes that the need to create meaning by piecing together the various parts of text in order to solve puzzles “adds an

evaluative dimension of considerable instructional power, an element that operates even when the teacher isn't around" (7) and posits that these "aesthetically-placed pauses for problems thus become, among other things, compelling and integrated reading comprehension tests, perhaps the only such tests that most kids will take voluntarily" (8). IF can be used for digital game-based language learning because it is in line with the principles of second language acquisition (SLA) and the communicative approach to language teaching (CLT). At the forefront is the clear implementation of the comprehensible input and output hypotheses. While Krashen's 'Input Hypothesis' states that only comprehensible input is required for SLA, Swain's 'Comprehensible Output Hypothesis' asserts that learner output is also a critical component of SLA. It is this continuous cycle of textual input/output between the reader and the game that constructs the story, while at the same time being the strongest language learning element in IF. Language presented by the game (learner input) must be processed by using both bottom-up and top-down reading processes, which must then be actively used to give the protagonist commands (learner output). Game output pertaining to spelling, semantic or syntactic errors will require the reader to 'notice' her mistakes and attempt to correct them. It is because of its parser-based input that IF is a more complete language learning tool than other textual forms of participatory story-telling, such as Hypertext fiction. While possibly seeming to be a tool solely used to practice the reading and writing skills, practice of the speaking and listening skills can be implemented simply by having learners play IF in pairs or small groups. This act of two or more people working at a single computer and engaging in communication with each other in order to accomplish a given task is known as computer-mediated collaborative learning (CMCL). In CMCL, the computer itself becomes a source of generating language between its users. The greatest opportunity for SLA during CMCL occurs when the discourse between learners allows for 'negotiation of meaning', defined by Pica as the "modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility" (495). Mercer and Wegrif have identified three types of discourse from conversation around computers: exploratory talk, which involves discussion and the negotiation

and validation of opinions; cumulative talk, which is evidenced by suggestion, confirmation and validation; and disputation talk, which reflects the competitive nature of a task by involving disagreement and individual decision-making (95). In this way, in addition to reading and writing, the listening and speaking skills can also be practised while playing IF – and this is often the case, even if the learners are unaware that it is taking place. Nonetheless, extended work on all four skills can additionally be implemented in tasks in the pre- and post-playing phases. With regards to assessment, if used primarily as an activity for practicing reading, IF inherently tests reading comprehension and gives immediate feedback. More traditional assessment can be done in conjunction with pre-, while and post-reading activities. Notwithstanding, O'Connell offers the following view on the need for assessment when using literature with learners: "once we engage the student in a text and treat them as readers, where the reading in itself is a creative act, forming a potentially dynamic partnership with the writer, then the individual, personal and subjective nature of the activity transcends any glib approach to assessment, such as right/wrong answers" (13). For a more in-depth appraisal of the language learning affordances of IF, see (Pereira, "Using Interactive Fiction").

Learner Perceptions of Interactive Fiction

Because of its lack of graphics, IF may initially seem like a hard sell to learners, many of whom are avid gamers. In spite of this, while there will be learners who will have limited interest because there are no flashy graphics, most will quickly recognise the benefits of using IF as a language learning tool. Pereira, in a case study on learner perceptions of using IF to practice language skills ("Beyond hidden bodies") has shown that learners see IF as a more 'fun' and engaging way to practice reading for fluency and clearly recognise the strong focus on vocabulary, verbs and problem-solving/imagination building, even after only a short time playing. Regarding specific aspects of language learning, feedback revealed that students perceived vocabulary and verbs to be the main linguistic focus in IF, as seen in the following statements:

- 'We need to think about verbs in order to advance in the game because we are more focused on the text of the game and because in order to finish it we need to pay a lot of attention to find out things that allow us to move on';
- 'It could be an important tool to learn new vocabulary and to use different types of vocabulary that is used in more practical situations and not typical classroom behaviour';
- 'English is being practised when you command your character and you sometimes have to try to find other words to say the same thing you meant for the computer to understand what you are saying'.

Learners also commented on how they see IF as both an educational activity and a game, and why it was so engaging to play:

- It's a game because you have fun playing it and because it has the characteristics of a game. It's educational because the educational component is always present during the game. In IF, although you are learning English, you sometimes don't understand it because you are really enjoying the game.
- We learn English because we have to pay more attention to the words because we want to move on.
- I had the freedom to make my character do what I wanted him to do and I didn't know what to expect – that's what makes IF fun.

The case study also confirmed my hypothesis that learners would be more willing to play an IF game autonomously at home as a way to practice reading than by reading a traditional book, with some learners even mentioning that they would consider playing IF at home as a leisure activity. IF may thus be considered to be an engaging alternative to traditional text for reading fluency practice, both in the classroom and in an autonomous learning context. Despite

the positive learner perceptions, there are potential challenges that need to be addressed when using IF with learners. Because it is an authentic text and has not been scripted for language learners, games need to be carefully selected taking into account the topic and content, the level of puzzle difficulty and of course, the level of English necessary to successfully play it. In my experience, most IF is best used with upper-intermediate level and above learners, given the authentic nature of the texts and the vocabulary needed to understand them. Nevertheless, there are IF games that have been used with pre-Intermediate/Intermediate learners with some success. Moreover, in addition to linguistic considerations, one must remember that it is difficult to please all learners with our chosen learning materials. Like any book, IF has the potential to draw every type of learner into its story provided the reader finds it appealing. When this is the case, learners will go to great lengths to reach the goal of the game. Conversely, if the reader isn't swayed by the topic matter (or the activity in general) and merely glosses over the text and does not fully engage with it, she will not be able to form the cognitive links necessary to solve the puzzles which bar the way to traversing to the text, and as a result, will most likely lose all interest. This will most often be the biggest barrier for some learners – not a linguistic one, but one of a cognitive nature. IF will be enjoyed by leaners who enjoy challenges and have developed imaginations and some capacity for problem-solving. To be sure, even experienced IF players still get stuck in IF games, and without hints or walkthroughs to help them through difficult puzzles, abandonment is often not far off. Thankfully, hints, maps and walkthroughs are readily available on the Internet for most games. Teachers can download hundreds of high-quality IF game files for free from the Interactive Fiction Database (IFDB) (www.ifdb.tads.org). In order to play an IF game file, a free piece of software, called an 'interpreter', is required (such as *Gargoyle*, or *Frotz*). Interpreters exist for nearly every mobile and computer operating system and are very quick and easy to download and install. Many IF games are also playable directly from web-based interpreters in a web-browser, either accessed from the IFDB or from Parchment (http://parchment.toolness.com/). Further support is available for teachers at IF Only: Interactive Fiction and Teaching English as a Foreign Language TEFL/TESOL (www.theswanstation.com),

which has articles on how to choose and implement IF in a lesson, as well as detailed lesson plans on using carefully selected games, with support documents such as vocabulary lists, maps and walkthroughs.

Conclusion

IF can be considered to be valid and useful language learning material because it is:

- Extremely interactive and potentially more engaging to read than a standard text – thus becoming a novel way for learners to improve their reading fluency and schema-building.
- Usable in the classroom and at home – the perfect tool for autonomous reading practice, possibly leading to an interest in reading for pleasure.
- In line with modern principles of SLA, especially with regards to the 'input/output hypotheses' of Krashen and Swain.
- An example of authentic material with a meaningful goal as per the communicative language teaching approach (CLT).
- A game where the totality of the game-play involves interacting directly with language, mostly through reading and writing.
- A game perfectly suited for additional speaking and listening activities and grammar-focused activities through the implementation of pre-, while- and post-playing tasks designed around the content of the game.
- Heavily dependent on problem-solving skills and imagination-building.
- Completely text-based with natural language input and output. No confusing graphical interface, no complicated control schemes; a perfect primer to DGBL for language teachers as they are experts in the domain of language, thus giving them a feeling of empowerment in an area where students often have the upper-hand.

Despite the challenges mentioned previously, IF is unique in being able to provide the affordances of literature and video games, offering learners and language teachers an exciting and engaging way to practice language skills and to become involved in DGBLL. The enormous quantity of available games and the various levels of support for players and educators should make even the first experience a successful one, and surely one to be repeated many times.

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