

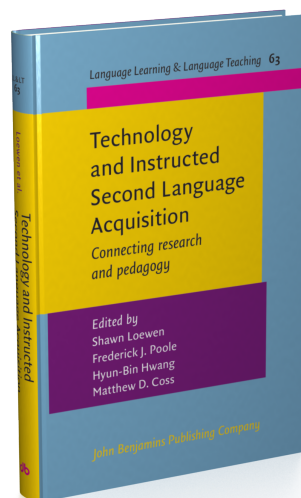
# Interactive fiction and narrative games in instructed second language learning

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## Interactive fiction and narrative games in instructed second language learning

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Interactive fiction (IF) and narrative games are rich with opportunities for foreign and second language (L2) learning in both informal and institutionalized learning contexts. As multimodal, interactive and non-linear texts, such games afford situated and experiential engagement with the L2, creating conditions for authentic L2 input, effective vocabulary learning and creative writing. As stimuli that prompt learners' problem-solving, they can encourage genuine use of the L2, as well as the development of communication and collaboration skills. Finally, as a product of learners' creativity, they can help learners to develop multiliteracies skills. In this chapter, we first frame the affordances of IF and narrative games from the perspective of cognitive theories of second language acquisition. Secondly, we review the current empirical research, which focuses on vocabulary learning, communicative interaction, and skill development. Third, we look at how IF texts and creation tools can be leveraged to create impact in the multilingual classroom, spotlighting the crucial mediating role of the teacher in a variety of pedagogies.

**Keywords:** interactive fiction, narrative games, interactionist approach, involvement load hypothesis, usage-based approach, pedagogy

### Introduction

Gaming for instructed foreign and second language (L2) learning constitutes a broad area of research and practice that covers a wide range of game genres, technologies (both analogue and digital), activities for learning and teaching, and pedagogies (for overviews, see Cornillie & York, 2025; Reinhardt, 2019; York, 2025, Chapter 9 this volume). This chapter focuses on instructed L2 learning with games in which the player engages with fictional text (written or multimodal), in particular interactive fiction and related narrative game genres that share many of its design features. In line with Reed (2023a), we use the term 'interactive fiction'

(IF) to refer to a genre of primarily text-based games that feature a fictional story, and which has its origins in Choose Your Own Adventure (CYOA) gamebooks and in the first digital text adventure games. IF is usually non-linear: readers make choices that can shape the unfolding and outcome of the narrative. In CYOA gamebooks, readers do this by navigating through the pages of a book in a non-linear way through analogue links. CYOA gamebooks reached their popularity peak in 1980s America (Cook, 2021), and experienced a renaissance in the 1990s with hypertext fiction published on the web, and more recently in the mobile gaming scene, with widely acclaimed and award-winning titles such as *80 Days* (Jayanth & Ingold, 2014). IF can also be parser-based, which first saw light of day in the late 1970s and enabled a reader to interact with a narrative and/or simulated world through an interface that processes short commands typed by the reader (Montfort, 2011), typically in the form of verb argument constructions such as PUT KEY IN LOCK. Although IF is primarily text-based, it can have the same modalities as artefacts that are more often labelled ‘games’, yet have very similar mechanics (e.g., puzzle solving) and associated features (e.g., dialogues with non-player characters), dynamics (e.g., risk-taking), and aesthetics (e.g., the player’s experience of fantasy or personal narrative).<sup>1</sup> Examples of such games, which we will henceforth call ‘narrative games’, are point-and-click adventure games and (massively multiplayer) role-playing games. Lastly, IF has begun to emerge as interactive film and audiobooks too. For visual examples of the variety of IF we refer the reader to a video produced by the FanTALES project (2019).

With the advent of the web, free authoring tools such as the popular Twine (<https://twinery.org/>) have enabled fans of the genre to create their own IF and publish it in online communities such as the Interactive Fiction Database (<https://ifdb.org/>) and itch.io (<https://itch.io/>). Here, their work is read and critiqued by peers, often in plurilingual and multicultural contexts. While the dominant language of IF and its community is English, in particular written Standard English (Allington, 2016), IF can be found in other language varieties too, including constructed languages (e.g., *The Gostak*, Reed, 2023b), and in multilingual formats (for a discussion on multilingual IF, see Cornillie et al., 2021).

Both as texts and as artefacts that elicit communicative discourse around them, IF and narrative games by extension offer rich opportunities for instructed

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1. While there is a clear overlap between IF and games, there are also works of IF that are not usually considered games. The mechanics-dynamics-aesthetics (MDA) framework for the design and analysis of games (Hunicke, Leblanc, & Zubek, 2004) provides a useful lens through which the difference between games and other artefacts can be established (see also Reinhardt, 2019). Works of IF that are not usually thought to be games may be similar to games in terms of aesthetics (in particular the player’s experience of narrative), but will lack many of the mechanics and dynamics that characterize games.

L2 learning, and have hence attracted the attention of researchers and practitioners in the field of computer-assisted language learning (CALL) since at least the early 1980s (e.g., Higgins, 1983). Like any other gaming genre, educational resource, or piece of technology, IF can be used in a wide range of ways both to answer fundamental research questions in instructed L2 acquisition and to serve specific L2 learning and teaching goals, in contexts that range from classrooms to informal and non-formal learning settings. Teachers, learners, and researchers can repurpose *off-the-shelf* IF (i.e., IF intended primarily for entertainment) to achieve curricular objectives (for example by letting learners play together in the L2, or by providing scaffolding materials), or they can design IF with L2 learning and teaching in mind, which can thus be seen as an instance of tutorial CALL (Hubbard & Bradin Siskin, 2004). Researchers and teachers can also leverage communicative discourse that emerges around IF, both in small group interactions during play and in the broader communities of IF, to study learning processes or teach an L2.

In this chapter, we first frame the affordances of IF and related narrative game genres from the perspective of cognitive theories of second language acquisition. Secondly, we review the current empirical research, which focuses on vocabulary learning, communicative interaction, and skill development. Third, we look at how IF texts and creation tools can be leveraged to create impact in the multilingual classroom, spotlighting the crucial mediating role of the teacher in a variety of pedagogies.

## Theories and research

### Theoretical perspectives

While research on IF can be guided by many theories of second language acquisition, three cognitive theories stand out because they allow us to seek an answer to fundamental questions about instructed L2 learning through the unique affordances of IF: the interactionist approach, the involvement load hypothesis, and usage-based approaches. From an interactionist perspective (e.g., Chapelle, 1998), reading IF – like reading any other kind of text – affords interaction with an L2 whereby the learner can get comprehensible input that is potentially personalized. Such comprehensible input can come when the learner looks up words in a dictionary, requests more information on a particular game object through the parser interface (e.g., EXAMINE LEAFLET), or from a peer player who is linguistically more proficient. Playing IF also allows learners to produce modified output. For example, when playing collaboratively, a more experienced peer may

ask their partner clarification questions during the negotiation of next moves. Or, when playing parser-based IF, learners will often need to revise malformed constructions: the parser will usually only accept well-formed utterances and hence provide explicit corrective feedback.

A second cognitive theory that is particularly well-suited to researching L2 vocabulary learning with IF is the involvement load hypothesis (Laufer & Hulstijn, 2001). Central to the theory is the hypothesis that the incidental learning of L2 vocabulary is contingent upon the degree of involvement induced by a task. Involvement load comprises both motivational and cognitive dimensions: ‘need’ (the degree to which understanding of a word is necessary for task completion), ‘search’ (attempting to find the meaning of an unknown word or retrieve a word form to express a certain concept, by relying on external help such as a dictionary), and ‘evaluation’ (the extent to which a learner compares a specific word or word meaning with other words or meanings). When learning an L2 through playing IF, learners are likely to experience a high involvement load, especially for words for which comprehension is essential to making progress in the game (inducing the motivational dimension ‘need’). Involvement load can also occur when they interact with peer players or other means to figure out the meaning of words or retrieve a word form (eliciting the cognitive dimension ‘search’), and when they need to decide which word to use in a given functional context (prompting a high degree of evaluation), for example when solving a puzzle in parser-based IF.

A third and more overarching theory relevant to instructed L2 learning with IF is the usage-based approach to language acquisition (Ellis & Wulff, 2020), which is inspired both by cognitive psychology and the linguistic theory of construction grammar. The key tenet of this theory is that learning an L2 (operationalized as a network of linguistic constructions) occurs through communicative use of the L2 and largely implicitly, recruiting general cognitive mechanisms such as associative learning, in interaction with more explicit learning mechanisms. In the case of L2 learning through IF, this boils down to learning the association between the form, meaning, and function of a construction, which can be simple (e.g., the lexical construction *grue*, a monster in the parser IF work titled *Zork*) or more complex and abstract (e.g., the caused motion construction in THROW TORCH INTO CAVERN). Reinhardt (2019) puts forward that gaming is particularly effective for L2 learning as it allows “purposeful manipulation of game objects and thus association of form, meaning, and function” (p.199). This applies to IF as well: players interact with an L2 in a simulated world to essentially achieve communicative objectives (for example to solve a puzzle or mystery), where they learn to pair the written forms of words (and more complex constructions) to a rich descriptive context that defines their meaning and how they can be used (their function) to

achieve specific game objectives. The design of parser IF, in particular, urges players to experiment with an L2 in a simulated world and test their linguistic hypotheses. Additionally, parser IF allows learners to practice verb argument constructions in a focused way. To make this concrete, when encountering an unknown word like *grue* in the story, players will eventually learn to associate its form with meaning and function by applying their current world and linguistic knowledge to it (e.g., TAKE GRUE, FIGHT GRUE) and getting contextualized and meaningful feedback (e.g., in response to TAKE GRUE: “What a concept!”; in response to FIGHT GRUE: “What do you want to fight the lurking grue with?”). Over time and with increasing encounters, this will strengthen the association between the word forms and their meaning, and similarly for more abstract syntactic constructions.

### Key areas and findings of empirical research

Empirical research on instructed L2 learning with IF and narrative games has focused on vocabulary learning, communicative interaction, and the development of reading and writing skills as well as creativity. With respect to vocabulary learning, a recent meta-analysis of 10 primary studies on digital game-based language learning published between 2003 and 2014 shows that adventure games are more than twice as effective for the development of vocabulary knowledge than ‘drill-and-practice games’ (i.e., gamified activities for focused L2 practice), as measured by pre- and post-tests (M.H. Chen et al., 2018). The sample of adventure games in this meta-analysis is small (three), and this game genre does not fully coincide with IF in terms of game design features, hence potentially limiting the generalizability of this finding to IF. Still, the outcomes of this meta-analysis suggest that games which feature a fictional story can promote deeper processing of vocabulary in comparison with decontextualized flash-card type activities that are typically devoid of narrative. This could be explained by the rich context of IF games in which language is used for communicative purposes (i.e., to tell a story in order to implicate the reader in action), as usage-based approaches to L2 learning would predict.

Three primary studies on vocabulary learning corroborate this hypothesis. A small-scale early study investigated vocabulary learning in two young Swedish-speaking learners of English as a foreign language (EFL) while collaboratively playing the parser IF game *Pirate Adventure*, accompanied by L1 translations of in-game target words (Palmberg, 1988). Interestingly, the learners restricted all possible meanings of the target words to meanings that could be related to the game, even if other meanings were equally plausible. This suggests that they had established strong form-meaning links for the target words during play. Further, Neville et al. (2009) studied vocabulary and culture learning of 15 German L2

students using qualitative methods, comparing IF designed for German L2 teaching with a paper-based story. They found that the IF condition favored schema development as measured by vocabulary use in follow-up essay writing tasks. Third, a study using the story-rich serious game for history education *Slave Trade* found that English vocabulary learning could not only be attributed to frequency effects, but also to game-specific features and behaviors such as multimedia annotations and searching for objects, promoting deep learning of words (Chen & Hsu, 2020).

Three studies on incidental vocabulary learning through reading off-the-shelf IF lend some empirical support to the involvement load hypothesis. First, two studies show that vocabulary items which are essential for a player to complete a task or solve a puzzle are retained better than vocabulary that is peripheral to gameplay. Cheung and Harrison (1992) established this finding for learning English through parser IF with 84 Chinese learners; Shintaku (2016) demonstrated this in a smaller study with 9 English-speaking learners of Japanese who played an adventure game. Although these studies are not framed in the involvement load hypothesis, their results provide evidence for the motivational dimension of the theory, i.e., ‘need’. Further support for the theory comes from Rasti-Behbahani (2023), who found partial support for the ‘search’ and ‘evaluation’ dimensions in a study on learning English through an adventure game into which they designed three different scaffolding strategies that differed in the level of involvement load. For more details on this study, see the next section.

A limited number of studies to date have examined communicative interaction between learners that play narrative games collaboratively, both in the L2 and in other languages. Taking a socio-constructivist theoretical perspective on L2 learning, and drawing on methods from conversation analysis, Piirainen-Marsh and Tainio (2009) investigated the interactional practices of two 13-year-old Finnish boys playing the role-playing game *Final Fantasy X* in their home settings. The study demonstrated that the players repeated the game characters’ utterances in English during play – relying mostly on their mother tongue Finnish as a means to regulate their interaction – and while doing so, co-constructed their meaning collaboratively. The researchers concluded that such ‘other-repetition’ offers players a resource for engaging with the L2 and for developing their linguistic and interactional competence. Further, Díez-Ortega (2023) examined the communicative interactions of 156 beginner-level Spanish L2 learners at a US university who played an educational mystery game in dyads. She documented language-related episodes that involved both English and Spanish, focusing on grammar, lexicon and orthography in the L2. While hypothesized to be developmentally useful in interactionist approaches to L2 learning, the occurrence of language-related episodes during gameplay did not correlate with higher

scores on post-tests of grammar and vocabulary in comparison with learners who played alone and with learners in a control group.

A final area of empirical research concerns the learning of language skills and transversal skills such as creativity. There is currently limited evidence that reading IF can help develop reading comprehension skills. One study involving 66 non-English major students at a Taiwanese university in a single-group experimental design showed that the participants were able to learn content knowledge on history from a narrative game (Chen & Hsu, 2020). Nagai and York (2022) set out to demonstrate the effectiveness of IF for EFL learning in Japanese university students ( $N=88$ ), and compared the reading comprehension, vocabulary learning and motivation of students who read a whodunnit in IF with a control group who read a linear, non-interactive version of the story. Analysis of the post-tests did not reveal any statistically significant differences between the groups, but qualitative analysis showed that students with low gaming proficiency struggled with the game interface, suggesting that game literacy may have an impact on motivation (York, 2025, Chapter 9 this volume).

Finally, a handful of studies on IF have researched creative writing. One key finding is that the ambiguity that arises from reading highly non-linear IF can serve as a springboard for developing creativity skills in linear writing (Lee, 2019; replicated in Huertas-Abril & Muszyńska, 2023). Further, two studies have examined creative writing of IF in Twine. They show that this activity can develop storytelling skills, intrinsic motivation, and transversal skills such as strategic and innovative thinking (Cornillie et al., 2021), and that writing multilingual IF can create a space for developing plurilingual skills and identity work, if a decent amount of scaffolding is provided (Buendgens-Kosten et al., 2023).

### Exemplary narrative game and instructed SLA study ISLA study

Rasti-Behbahani (2023) is an empirical study on instructed vocabulary learning with narrative games that was theoretically informed by the involvement load hypothesis. It aimed to examine the impact of the degree of involvement load on the rate of vocabulary acquisition after collaborative play of the commercial point-and-click adventure game *Haunted Hotel: Death Sentence Collector's Edition*.

The researchers meticulously operationalized the involvement load hypothesis through a method coined 'technique feature analysis', allowing them to quantitatively measure the involvement load of three different scaffolding strategies that were integrated into gameplay: pre-teaching of target words without glosses (high load), multiple-choice glosses (medium load), and single-word glosses (low load). The researchers selected target words that appeared with equal frequency in the game and that were all necessary to understand in order to achieve outcomes

in the game. They highlighted these words in the game guide that accompanied gameplay, providing different levels of scaffolding for each word through glosses. 30 young Persian-speaking EFL learners (age 13–15) were randomly assigned to one of the three experimental conditions and played the game in pairs for between 70 and 90 minutes. A think-aloud protocol was employed that was carefully designed in order to limit interference with the gaming task. The participants also took part in pre- and post-tests that measured their receptive and productive vocabulary knowledge, which were piloted before the experiment, achieving acceptable levels of internal consistency above .70 Cronbach alpha. The researchers organized the post-tests three weeks after the main task with a view to obtaining a measurement of vocabulary learning that was durable and stable.

As predicted by the involvement load hypothesis, analysis of the vocabulary tests demonstrated that pre-teaching of vocabulary (high involvement load) was more effective for productive and receptive vocabulary learning than both conditions that comprised glosses, with large effect sizes between the conditions. However, contrary to the hypothesis, playing the game with multiple-choice glosses (medium load) was found to result in the lowest rate of word acquisition. Inductive content analysis of the qualitative data revealed that participants in the medium load condition engaged fully in search for meaning, using inferencing techniques that may have involved mental processes unnecessary for the task, which may have confused them and prevented the generation of strong form-meaning associations. Moreover, they often engaged in trial-and-error behaviors, hindering deep processing of the vocabulary. The researchers also conjectured that learning could have been more effective in the high load condition because of an unforeseen frequency effect: participants were exposed more to the target words through the pre-teaching activities, even though the target words appeared with equal frequency in the game text.

Rasti-Behbahani (2023) should be seen as an exemplary study for the field of instructed L2 learning with games: it integrates theory on instructed L2 learning with careful instructional design, methodological rigor, rich data obtained through mixed methods research in a context with high ecological validity, and a concern for implications of research for teaching practice. On the one hand, it is important for research, as it can potentially falsify the involvement load hypothesis and inspire other researchers to refine methods that operationalize the theory. On the other hand, the study brings about useful implications for teaching practice. It adds to the body of evidence that the provision of scaffolding supplementary to gameplay, through dictionary materials or teaching, can lead to more effective learning (see also the meta-analysis of Dixon et al., 2022). More specifically, the study suggests that teachers may want to incorporate pre-teaching techniques instead of more laborious input modification in the form of glosses, and

that singular glosses are to be preferred over multiple-choice glosses in order to avoid learners' confusion.

### Generalizability and representativeness

When extrapolating the findings of current research to new contexts, we need to consider both the participants and the learning tasks (in particular, the games that were part of the treatment). As can be gleaned from the 13 studies summarized in Table 1, most studies have revolved around the L2 learning of university students. Only two studies took place in secondary schools, and two studies involved younger learners. Further, most research has focused on English; only three studies involved other languages (Spanish, German, and Japanese). Two studies aimed to value the linguistic diversity of their participants by stimulating them to use all languages they had at their disposal, including their mother tongues and other languages spoken at home (Buendgens-Kosten et al., 2023; Cornillie et al., 2021).

As for the learning tasks, a clear trend is that most studies used commercial games, of which only one (Díez-Ortega, 2023) was explicitly designed for education. In two studies, the researchers developed a bespoke prototype. While this allows the researcher to more carefully control the experimental treatment, a problem with these games is that they are often unavailable for other researchers, preventing replication studies. On the other hand, commercial games have a longer lifetime, and are also likely to more closely resemble the games that learners play in their pastime, which increases the ecological validity of studies that employ such games.

Finally, one study (Lee, 2019) was replicated (Huertas-Abril & Muszyńska, 2023). The latter study recruited students from different settings with the explicit aim of adding more generalizability to the original findings.

To summarize, the focal population in current research comprises university-level students of EFL mostly from Western countries, and most of the games used in research were commercial in nature. This makes it hard to generalize current findings to other contexts. In particular, the field of research on IF and narrative games lacks data from participants outside of Western, educated, industrialized, rich and democratic (WEIRD) contexts. Considering that there are plenty of qualitative IF works and narrative games in other languages than English, and that many such games target audiences other than Western ones, deal with themes such as diversity and inclusion, and are often available for free or at a low cost, there are opportunities for additional research that taps into non-WEIRD audiences.

Table 1. Overview of studies

| Study                           | Participants and context                                                                                                                                                             | Task                                                                                                       |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Buendgens-Kosten et al., 2023   | 78 EFL students at a comprehensive school in Germany, predominantly German mother tongue (average age 15.5)                                                                          | Writing multilingual IF in Twine                                                                           |
| H.-J.H. Chen & Hsu, 2020        | 66 non-English major students at a national university in Taiwan (average age 16)                                                                                                    | Learning vocabulary and history with the adventure game <i>Slave Trade</i>                                 |
| Cheung & Harrison, 1992         | 84 Chinese-speaking students of English in their first year of higher education in Hong Kong                                                                                         | Learning vocabulary in the parser IF game <i>Colossal Adventure</i>                                        |
| Cornillie et al., 2021          | 21 EFL students in modern languages program in secondary education in Belgium, Dutch speakers (age range 17–18)                                                                      | Writing fanfiction-based IF in Twine with multilingual elements                                            |
| Díez-Ortega, 2023               | 156 beginner-level learners of Spanish as a foreign language at a university in the US                                                                                               | Learning of vocabulary and grammar in an educational game focused on solving mysteries around student life |
| Huertas-Abril & Muszyńska, 2023 | – 25 pre-service teachers of EFL at a university in Spain<br>– 15 pre-service teachers of EFL at a university in Poland<br>– 10 students of creative media at a university in Poland | Creative writing around the IF game <i>Her Story</i>                                                       |
| Lee, 2019                       | 25 EFL students at a university in Korea                                                                                                                                             |                                                                                                            |
| Nagai & York, 2022              | 88 EFL students at a private university in Japan (Japanese mother tongue)                                                                                                            | Reading a whodunnit in IF developed by the researchers                                                     |
| Neville et al., 2009            | 15 students of German at a university in the US                                                                                                                                      | Learning vocabulary and culture in a parser IF game developed by the researchers                           |
| Palmberg, 1988                  | Two Swedish-speaking learners of English in Finland (age 9 and 11)                                                                                                                   | Learning vocabulary in the parser IF game <i>Pirate Adventure</i>                                          |
| Piirainen-Marsh & Tainio, 2009  | Two Finnish boys learning aged 13                                                                                                                                                    | Playing the role-playing game <i>Final Fantasy X</i> in their homes                                        |
| Rasti-Behbahani, 2023           | 30 Persian speakers learning English at a private institute in Iran (age range 13–15)                                                                                                | Learning vocabulary in the adventure game <i>Haunted Hotel: Death Sentence Collector's Edition</i>         |
| Shintaku, 2016                  | 9 students of Japanese as a foreign language at a public university in the US                                                                                                        | Learning vocabulary in the adventure game <i>Yuurei Yashiki-no Nazo</i> (“mysteries in a haunted house”)   |

## Pedagogical applications and considerations

IF and narrative games have broad potential to be applied in the classroom. As multimodal, interactive and non-linear text, they afford situated and experiential engagement with the L2, creating conditions for authentic L2 input, effective vocabulary learning and creative writing. As a stimulus that prompts the problem-solving of players, a work of IF or narrative game can encourage genuine use of the L2, as well as the development of communication and collaboration skills. As a product of learners' creativity, IF affords the development of multiliteracies.

Moreover, the use of IF and narrative games in the L2 classroom is compatible with a variety of pedagogical approaches. To distinguish the different uses of the technologies associated with teaching through and around IF and related genres, we can build on the framework in Cornillie & York (2025). This framework differentiates between three roles or functions of technology: 'game as tutor', where IF and narrative games can be seen as doing some of the teaching; 'game as tool', where IF and narrative games serve mainly as a stimulus to incentivize interaction in the L2 among learners or between learners and content; 'game as ecology', where IF and narrative games are seen as embedded in the practices of a broader community of developers and fans who are using language, often an L2, to discuss, co-design and -create, and celebrate the medium. Further, calls for a stronger focus on the role of the teacher in the research area of game-based language learning (Cornillie & York, 2025; York et al., 2021) and a recent meta-analysis which demonstrated that teacher-supplied scaffolding materials are key to the effectiveness of learning with games (Dixon et al., 2022) require us to critically consider the impact of teachers' mediating actions during student learning with IF and narrative games. Therefore, this section presents examples of pedagogical applications in which each of the above-mentioned functions of technology is combined with a pedagogy that has been associated with IF and narrative games in the current literature. We consider the crucial role of the teacher in mediating the students' learning and give an example of each approach.

### IF and narrative games as tutor in a comprehension approach to L2 teaching

IF and narrative games designed specifically for L2 learning, as instances of tutorial CALL (Hubbard & Bradin Siskin, 2004), blend in well with a comprehension approach to L2 teaching. Such tutorial games are engineered in a way to maximally provide comprehensible input as well as feedback that can help learners revise misconceptions about L2. In a discussion of psycholinguistic, human-interface, and aesthetic guidelines for the design of 'interactive participatory dramas' (a specific genre of IF that revolves around interactions with

non-player characters), Hubbard (2002) notes that CALL specialists have tried to conceive tutorial games that also provide opportunities for L2 production, for example through the integration of speech recognition technology. However, spoken L2 practice in such games has usually been superficial, as such practice does not allow for deep processing of form simultaneously with meaning. More recent research on dialogue-based games designed for language learning suggests that even with current state-of-the-art language and speech technologies which in principle allow for more open and spontaneous tasks, language practice can still be quite mechanical and is therefore more fit for input processing than for language production (Bibauw, 2022).

In tutorial IF and narrative games, the role of the teacher is limited: technology acts partly as a substitute for a teacher. However, technology makes it possible to capture data on learner behavior and performance and visualize it to the teacher in order to give personalized support to learners in areas where technology fails to do so, providing ‘distributed scaffolding’ where the roles of technology and teacher are aligned (Tabak & Kyza, 2018). Empirical work on this topic in the area of instructed L2 learning is yet to be carried out.

An example of the use of tutorial IF in a comprehension approach can be found in Neville et al. (2009), who developed a parser-based IF game to prepare university students of German L2 for functioning in the culture of their target language, more specifically for travelling by train. The game teaches German vocabulary, reading and culture by immersing students in a written simulation of a fictional train station that involves careful reading and manipulation of the environment in the target language, including interaction with non-player characters. In a second iteration of the project, the teachers designed additional classroom activities around the simulation. Prior to playing, students were shown photos of train stations in Germany to provide them with a visual framework for navigating the written simulation. Gameplay was followed by a debriefing session in class to stimulate students to reflect on their learning and further aid comprehension. These activities were intended to facilitate schema development and transfer of learning, the effects of which were visible on the essays that students wrote as a follow-up task.

### IF and narrative games as tools in communicative language teaching

Balra (1990) is one of the earliest texts that explicitly associates IF and adventure games with a communicative approach to language teaching. He sees such games as valuable for the development of communicative fluency, as their use does not create an overt language teaching situation, but provides opportunities for problem-solving, which requires methodical planning, thinking, and note-taking.

Ideally, IF and adventure games are played in small groups of learners, involving group dynamics such as arriving at a consensus in order to decide the next course of action, hence integrating the four language skills. Zeroing in on parser IF, Pereira (2014) takes a similar perspective, coupling the approach more explicitly to effective principles of second language acquisition and CALL (Chapelle, 2001). One argument that he forefronts is the practicality of IF for classroom-based teaching contexts: much IF is available for free (and of good quality) and does not require state-of-the-art hardware to play. Jordan (1992) is more critical of adventure games for the development of communicative fluency, as “they normally involve more reading and writing than speaking” (p. 91).

Naturally, the success of using IF and narrative games in the classroom as tools for teaching specific L2 skills will depend to a large extent on the actions that teachers take in mediating the learning of their students. As Pereira’s (2014) work demonstrates, the impact of teachers cannot be underestimated while preparing a lesson (e.g., selecting games appropriate for their students, designing activities and supplementary materials to scaffold learning), before playing (e.g., introducing language and the way the game is played), while playing (stimulating learners to use the L2 and not only their L1, and encouraging to persist through failure in the game), and post-play (e.g., checking reading comprehension, focusing on L2 form).

Meskill (1990) offers a classic example of a narrative game that is implemented in a communicative language teaching setting. Here, the teacher prioritizes students’ communicative interaction in the L2, by letting them play the mystery game *Where in the World is Carmen Sandiego* collaboratively. The game functions as a stimulus that elicits communication between the students about world geography and what to do next in the game. The teacher acts as a language resource to which students can ask questions about the L2, the target culture and strategies for gameplay. She orchestrates pre-game activities to orient the students toward the logistics of the game as well as language and communication strategies needed to play it, for example through pre-teaching of vocabulary, reading tasks that familiarize students with the mystery genre and role-plays that enact negotiation in the L2. She also sets up thorough debriefing tasks to consolidate students’ learning of both content (knowledge of the world depicted in the game) and communication strategies in the L2.

Although Meskill (1990) is an inspiring model for teachers to implement narrative gaming in the communicative classroom, it is unclear whether the teaching scenario has actually been tried and tested or is a hypothetical one. Hypothetical scenarios, even if thoroughly informed by pedagogy, must be systematically evaluated in real classrooms, for example through action research. This is critical for the research area of teaching with games to make progress and make a real impact on education (York et al., 2021).

## IF and narrative games as tools in task-based language teaching

IF and narrative games can also be applied as tools in task-based language teaching (TBLT) pedagogy. In this approach, the roles of the teacher and technology are very similar to those in a communicative language teaching approach.

The study of Lee (2019) and its replication in Huertas-Abril & Muszyńska (2023) can be seen as examples of this approach, even if they did not explicitly base their classroom activities on principles of TBLT. In these studies, the main task for the students was to produce a piece of creative writing after playing at least 60% of the IF murder mystery game *Her Story* individually, and to reconstruct the story in their writing. Since the game is highly non-linear, and there was a lot of variability in the way in which students progressed through it, each student experienced the story in a different way. A more explicit task-based design of this activity could be to use these unique playthroughs as a source for an information gap activity, where students need to figure out differences between their versions of the story.

## IF and narrative games as tools and ecology in multiliteracies pedagogy

Multiliteracies pedagogy is informed by a reconceptualization of literacy that reflects the cultural and linguistic diversity of our societies as a result of global migration and interconnectedness through communication technologies, and the “burgeoning variety of text forms associated with information and multimedia technologies” (New London Group, 1996, p.61). Multiliteracies pedagogy recognizes explicitly that language users do not simply decode language, but actively construe meaning using all the semiotic resources that are available to them. These include language varieties that are typically not the focal point of classroom-based instruction but feature prominently in gaming spaces (e.g., text chat in massively multiplayer online games, see Steinkuehler, 2006), as well as technological means to express meaning, which comprise both multimodal and interactive aspects of games. Hence, learners need to learn how to make use of such resources in order to express meaning, in particular in plurilingual and pluricultural contexts. The availability of free and easy-to-use authoring software such as Twine and the possibility to share them with an online audience has enabled language learners to practice this skill productively by designing (not just writing) IF experiences, in which they need to consider the impact of their use of semiotic devices on the reader. Here, the function of technology as a tool (to write IF) is blended with its function as a means for connecting with the broader ecology around IF.

The discourses and conventions of gaming as a means for meaning-making have started to attract L2 educators who position their work in multiliteracies pedagogy. For example, Warner et al. (2019) designed a teaching module around three levels of ‘game discourse’ in the ecology of games: game as text (including an appreciation of how multimodality creates meaning), interactions related to gameplay (gamer language), and social discourses around games and gaming (for example, how certain groups of people are portrayed in games). Stannard (2022) explores how vernacular IF developed by professional game studios and hobbyists alike can be used in the EFL classroom to let learners reflect on how unique design characteristics of the medium (avatars, flow, and choice) contribute to meaning-making.

The implementation of IF and narrative games from a multiliteracies perspective requires a thorough understanding of the medium in order to recognize its affordances for creating classroom activities that contribute to the goals of multiliteracies pedagogy. Considering empirical work which shows that teachers often do not have favorable attitudes towards using games in the L2 classroom and may have insufficiently developed gaming literacy (e.g., Blume, 2019), there is an important role here for teacher educators to lower barriers to adoption of this approach in classrooms. The next section describes an example of this approach to using IF in L2 teaching.

### **Pedagogical scenario for reflection**

This scenario was contributed by Joeri Van der Veken, an EFL teacher and teacher trainer with 24 years of experience in secondary education in Belgium, working mostly with secondary school students aged 17 and 18 who follow a program with a focus on economy and modern languages. The teacher also participated in the FanTALES project ([www.fantales.eu](http://www.fantales.eu)), which develops materials for teaching and learning with fanfiction, IF, and multilingualism in the L2 classroom (Sauro et al., 2020). The scenario covered a two-week project (six periods of fifty minutes) that aimed to foster the following overarching learning goals: becoming familiar with the concept of fanfiction, growing enthusiasm for creative writing, learning the basics of writing IF in Twine and reflecting on what makes good IF and fanfiction. The students were tasked with writing a short piece of IF that incorporated characters and other elements from their fandoms. The stories had to comprise two to five choices for the reader and three different endings, and between 150 and 200 words per passage (a unit of text in Twine; see Figure 13.1 and its accompanying explanation below). The teacher drew on fanfiction practices in order to harness students’ motivation, knowing that the subject of gaming and both the creative

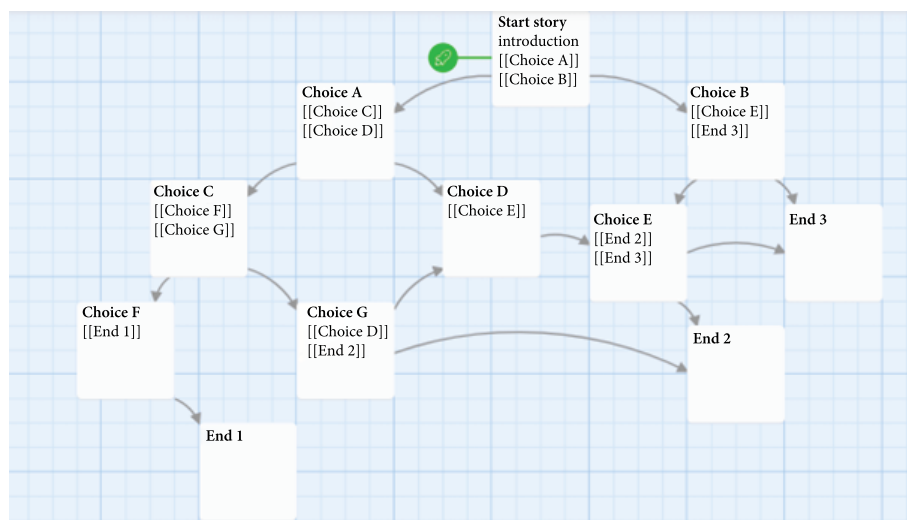
and technical aspects of writing IF can be quite challenging for the students. The project is an example of the use of IF as a tool for the development of multiliteracies skills, where the teacher acts largely as a motivational partner, a resource that provides models of creative writing and a manager that keeps students focused on the objectives and deliver their project in a timely and qualitative manner.

In the first period, the teacher introduced the students to the concept of fanfiction through an ice-breaker activity based on lesson idea 101 from the FanTALES project. The purpose was to create a safe sharing and learning environment for the students that would warm them up for the creative writing project that was to follow. In groups of three to four, students combined a literary source text provided by their teacher with four elements from their fandoms: a person or character, a location, an object, and a phrase or quote in English or any other language. These elements could draw on their favorite films, books, games, or other media formats, or just represent someone or something they care about deeply. At this point, the teacher can also tell the students which fandom they like. For students of age 17, it can sometimes be a little difficult to admit to being fond of something that maybe is not that 'cool' in the peer group. The enthusiasm of the teacher in this stage is quite important. Since the goal of this lesson is not to have students write but to capture their enthusiasm for this genre of creative writing, the teacher used a gap-fill text into which the four elements from their fandoms can be inserted. Alternatively, the teacher can ask students to write a prompt for ChatGPT to generate a story around the provided source text and the chosen elements. Finally, the students read their story (based on the gap-fill text or the text generated by ChatGPT) out loud to the entire group.

The next period was mostly focused on learning how to write IF in the authoring tool Twine and on letting students reflect on how to design interesting choices in IF. In pairs, the students learned the basics of Twine and IF by means of the printed version of the FanTALES tutorial for Twine. This tutorial comprises technical instructions and literary guidelines to write IF, as well as examples of short IF stories based on the Harry Potter fandom.

After this lesson, the teacher gave two sample structures in Twine (a simple structure and a more advanced one; see Figure 13.1) and asked the students to choose a common universe or fandom they would use for the stories. The provided structures were important to limit the amount of text students were to write, because previous experience learned that otherwise they are tempted to keep adding choices, each of which results in an additional passage that needs to be written. Figure 13.1 shows that even a relatively short story with up to five choices for the reader, each of which comprises up to two options (represented between square brackets), already requires the writer to create content for eleven passages (represented by the text boxes). A preset structure helps them focus on

a specific storyline with a restricted number of choices. For the setting of the stories, students came up with the Assassin's Creed game universe, since they liked the different periods in time in the franchise: Ptolemaic Egypt (Origins), Ancient Greek world (Odyssey), pirates in the 17th century (Black Flag), French Revolution (Unity) and Victorian London (Syndicate).



**Figure 13.1** A structure of a branching story in Twine that has three possible endings

In their first attempt to make their stories interactive, students often wrote a few sentences and then let the reader immediately make a choice. This led to a lot of clicking but not so much reading. So, the teacher had to intervene and teach some storytelling techniques, for example how to describe a setting or introduce a character, in order to engage the reader in their story. After having read some examples from the first Harry Potter book, students understood this better and could focus more on the storytelling. These literary excerpts were also used to briefly analyze the language, more specifically adjectives to describe a person, an atmosphere, or a specific setting. Students were also encouraged to look for synonyms instead of using the same adjectives all the time and learnt to use an online dictionary for that. This led to the students using a richer vocabulary in the final texts.

During the following periods, the students were writing in Twine almost all the time. Sometimes the teacher had to help groups that got stuck because they wanted to write too much and could not lead their plot to three endings anymore. So, they had to learn to omit a lot of text and only keep the story elements that were essential for the different endings. At the end of the project, students enjoyed reading each other's stories and rated the stories of the other groups using the

evaluation rubrics of FanTALES. To make the project even more compatible with a multiliteracies perspective on teaching, students could be encouraged to publish their work online, in the communities from which the project drew inspiration.

## Extension resources

### Reflection and discussion questions

- Think about an IF or narrative game you have played or find one to play in the Interactive Fiction Database. In the latter case, you can use the ‘learning through doing module’ of the FanTALES project to guide you (The FanTALES group, 2019). How would you implement such a game in a language class? What would be the primary learning objective for your students? Which activities would you organize around playing the game? What would be the role of technology (stimulus, tutor, authoring tool, tool to connect with online communities, ...)? Which pedagogical approach discussed above would you use to guide you, and why?
- Building on your implementation ideas, come up with ideas for a research question that you would want to explore. What would be the primary constructs? How would you measure L2 learning (cognitive or non-cognitive outcomes)?
- Research on (L2) learning through gaming is often atheoretical. In order to make predictions about effective instructed L2 learning through IF and narrative games, we need more empirical studies that are informed by theory. Which of the theories discussed above would you use to guide your research project, and why?

### Topics for (action) research

- From an interactionist approach, examine communicative interaction between L2 learners and more experienced peers around IF play on computer-mediated communication platforms such as *ClubFloyd* (<https://www.ifwiki.org/ClubFloyd>) or *Twitch* (a popular streaming platform for gamers). What practices can we encounter that are known to be conducive to L2 learning and/or multiliteracies development?
- Set up a controlled comparison of vocabulary learning in parser-based (requiring retrieval and production) vs. choose-your-own-adventure IF (only input-based). Is there any difference in terms of involvement load, and how does it affect learning?

- Research L2 learning from a usage-based and constructionist perspective in *The Gostak* (Reed, 2023b), a parser IF game that features a constructed language. To what extent can learners acquire novel lexical constructions (pseudowords), and how can their knowledge of syntactical constructions in English contribute to such lexical learning?

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