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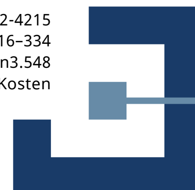

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Digital games and the development of plurilingual competence: Language models, language awareness and transformational play

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The potential of games to support language learning and acquisition – be it in the digital wilds or in the foreign language classroom – has often been discussed. In this article, I will look at digital games from an explicitly plurilingual perspective. I describe five existing games that demonstrate a plurilingual outlook (*Romanica, MElang-E, BabelAR, LoCALL, World of Languages*), focusing on their potential regarding modelling plurilingual competencies, fostering language awareness, and encouraging transformational play. I finish with a discussion of overall trends that can be observed across the five games and ramifications regarding pedagogy and future research.

Keywords: digital games, multilingualism, plurilingualism, transformational play, language awareness

1. Games in language learning and teaching

Games have been a recurrent topic in computer-assisted language learning (CALL) discourses for many years. Gillespie (2020), in his analysis of CALL journals, found 26 articles over a span of 11 years, bringing this topic into the "less published" category (a middle category between "most published" and "least published"). Monographs and edited volumes are regularly published on this topic (Gee, 2004, 2008; Reinders, 2012; Reinhardt, 2019; Sykes & Reinhardt, 2013). There is at least one journal dedicated exclusively to games and language learning (*Ludic Language Pedagogy*), while top journals in the field have published regular special issues on the topic (*ReCALL* 24(3) in 2012; *Language Learning & Technology* 18(2) in 2014).

In the literature on games for language learning, games are, among other

things, celebrated for their ability to provide target language-rich input, to encourage target-language use, and to provide corrective feedback, all three of which are associated with known routes of language acquisition. Often, all learning and teaching of languages through games is referred to under the header of *game-based language learning* (GBLL), though deHaan (2020) suggests distinguishing between *game-based language learning* ("learning language from games without a teacher's assistance (the learning can happen incidentally or intentionally)" (deHaan, 2020, p. 118)) on the one hand, and *game-based language teaching* (GBLT, "learning language from games and a teacher (the learning results from an explicit pedagogical intervention)" (deHaan, 2020, p. 118)) on the other hand.

The range of games used in language learning and teaching varies widely. A key distinction in this regard is made by Sykes and Reinhardt. They refer to "the application of vernacular games in L2TL [second language teaching and learning]", i.e. commercial off-the-shelf games (COTS) used for teaching/learning, as *game enhanced L2TL*. *Game-based L2TL*, on the other hand, is learning and teaching with games developed for this purpose (Sykes & Reinhardt, 2013, 4f.). The second type, game-based L2TL, will be the focus of this article, which will look at games specifically produced for learning purposes. The intention is not to review the games in question, but to use the games to illustrate in which ways digital games for language learning can implement notions from a plurilingual pedagogy, and what implications this has for CALL and GBLL/game enhanced L2TL.

2. A plurilingual perspective on games for language learning

In this article, I will look at games from an explicitly plurilingual perspective. When I speak of an "explicitly plurilingual perspective", my focus is on how games can draw on a learner's full linguistic repertoire, and/or help learners to extend this repertoire. *Plurilingualism* is a term that – like its sibling *multilingualism* – is used in different senses in different communities. In this article, I follow the understanding of plurilingualism put forward by the Common European Framework of Reference for Languages (CEFR). The CEFR states:

> (...) the plurilingual approach emphasises the fact that as an individual person's experience of language in its cultural contexts expands, from the language of the home to that of society at large and then to the languages of other peoples (whether learnt at school or college, or by direct experience), he or she does not keep these languages and cultures in strictly separated mental compartments, but rather builds up a communicative competence to which all knowledge and experience of language contributes and in which languages interrelate and interact. In different situations, a person can call flexibly upon different parts of this competence to achieve effective communication with a particular interlocutor. (Council of Europe, 2001, p. 4)

It continues:

> From this perspective, the aim of language education is profoundly modified. It is no longer seen as simply to achieve 'mastery' of one or two, or even three languages, each taken in isolation, with the 'ideal native speaker' as the ultimate model. Instead, the aim is to develop a linguistic repertory, in which all linguistic abilities have a place. (Council of Europe, 2001, p. 5)

In other words, the CEFR values the ability to flexibly draw on a linguistic repertory, including a range of languages at different levels of competency. A plurilingual approach to language teaching encourages *developing one's repertory* (for example, by adding words, structures, skills in specific languages), and developing one's ability to *draw on one's repertory* for linguistic and non-linguistic purposes (e.g. ordering a meal at a restaurant, telling a joke). In this, languages do not have to be used in isolation. Intercomprehension (drawing on one language to understand another language), code-switching (alternating between languages within an utterance), and mediation (bridging the gap between speakers without a shared language or helping a person access information in a document in a language they do not understand) are all explicitly acknowledged in the CEFR (Council of Europe, 2001) and the CEFR Companion volume (Council of Europe, 2018) as relevant elements of plurilingual competence.

We have a growing understanding of how a plurilingual pedagogy can positively impact language learning/acquisition. Göbel et al. (2010) reanalysed DESI data and found a positive relationship between teacher self-report of language transfer support in the classroom and target language outcomes of secondary school students. In a study with adult learners of German after English, Marx (2008) found that adult learners who received explicit instruction on how to draw on English to understand German performed better in listening comprehension of cognate-rich texts than learners in a control group. On the other hand, Otwinowska et al. (2020) report that Polish-speaking secondary school learners who received an awareness-raising workshop on cognates did not acquire English vocabulary faster than a control group, nor did they differ in reading comprehension. Primary school learners undergoing a translanguaging based intervention, which involved comparison of word formation in different languages, cognate-focused activities, and text productions in several languages based on a sample text in another language, improved their morphological awareness more than learners in a control group. On the post-test item "You learn more when you use Basque, Spanish and English in the same class", learners in the experimental group gave an average rating of 8.57 (SD: 1.93) on a scale from 1–10, reflecting the perceived usefulness of this approach (Leonet et al., 2029, p. 53). This positive impression was also reflected in the focus group discussions. Young learners, too, can profit from a plurilingual pedagogy: Busse et al. (2020) demonstrated that primary school EFL learners in Germany engaging in multilingual vocabulary games and affective-experiential activities gained more vocabulary than a control group.

The research, so far, has provided indications that employing a plurilingual pedagogy might foster skill development in the target language. In this,

though, we need to remain aware of the fact that plurilingual competencies cannot be reduced to skills in single, named languages (cf. Council of Europe, 2018, p. 28-29).

3. GBLL and plurilingual competencies: All games are multilingual

One element of confusion related to GBLL and plurilingualism is that, naturally, all GBLL and GBLT is about extending one's linguistic repertory and can thereby be said to foster plurilingual competencies. In the remainder of this section, I will discuss how far all games and all GBLL/GBLT contribute to plurilingual competencies – and how, still, an explicitly plurilingual lens can be helpful.

I would like to start with the premise that every game is a multilingual game: or, at least, that every game can be a multilingual game. Most obviously, many games include language, hard-coded into the game. Many of these are monolingual, but even as monolingual games they can contribute towards growing a player's plurilingual repertory by supporting this person for example in acquiring new vocabulary items (deHaan et al., 2010; Di Zou et al., 2021; Hitosugi et al., 2014; Sundqvist, 2019). Some games include more than one language, be it in the form of code-switching in dialogues (e.g., in the *Grand Theft Auto* series or *Overboard!*) or as a plot element (often constructed languages: D'ni in the *Myst* Series, Ancient in *Heaven's Vault*).

Players do not only consume the language presented on screen or via audio; they also communicate within the game and about the game while playing, either with other, co-present players, or with players at physically remote locations, for example, in massively multiplayer games. A good example of the first type can be found in Piirainen-Marsh and Tainio (2009). Two teenage Finnish speakers were recorded playing the English version of *Final Fantasy X*. The authors document how, in the interactions while playing, they use Finnish, but also draw on the English presented in the game, resulting in bilingual utterances during gameplay. A monolingual game, in gameplay, led to multilingual communication.

It is not only the conversations that occur during gameplay that are important here, though. Gee distinguishes between "game" with a small "g" ("the software in the box and all the elements of in-game design" (Gee, 2008, p. 24)) and "Game" with a big "G" ("the social setting into which the game is placed, all the interactions that go on around the game" (Gee, 2008, p. 24). The *G*ame potentially includes a myriad of social practices surrounding the *g*ame, from reading and writing reviews to recording or watching let's plays (video recordings of players playing a game, often with commentary), to Machinima video production/reception, forum discussions, conversations not (directly) related to gameplay in one's guild (group of players collaborating within multiplayer games) (Rama et al., 2012), game-related fanfiction reading/writing (Cornillie et al., 2021), game modding, playthrough writing/reading, fandubbing (Vazquez-Calvo et al., 2019; Vazquez-Calvo, 2020), and more. If a *g*ame is monolingual on the outside, the *G*ame can still be multilingual.

In short: Every g/Game is (potentially) multilingual – and can contribute to the development of plurilingual competencies by encouraging, extending, and using one's plurilingual repertory.

Furthermore, when discussing a plurilingual perspective on games, we also need to look at how the game is integrated into a lesson, for example, through pre-, while-, and post- (PWP) playing activities, which might draw on the growing plurilingual pedagogy treasure trove (for an example, see Elsner & Lohe, 2021).

4. But some games are more multilingual than others: Key concepts related to games and plurilingual competence

Above, I have argued that all games and game play may (potentially) be multilingual and may already contribute to the development of plurilingual competencies, either by contributing to the development of one's linguistic repertory (even if only in one language), or by including more than one language at the surface level, and thereby modelling/allowing for practice of plurilingual language use. In the next step, I will narrow the focus, limiting it to discussion of "work that actively and consciously works on the interstices of multilingualism and CALL" (Buendgens-Kosten & Elsner, 2018a, xvii). I will draw on an understanding of language and language learning that takes an explicitly plurilingual outlook and identify key concepts that may be of special relevance when looking at GBLL/GBLT from a plurilingual lens.

4.1 Modelling plurilingual competence

Good language models play an important role in foreign language learning/acquisition. They provide a source of input relevant for acquisition, but they also model what being a successful speaker of a language looks and sounds like. Traditionally, the ideal language model was often equated with a monolingual speaker of a specific (high-status) variety of the target language. Today, following critiques regarding linguistic imperialism (Phillipson, 1992), and considerations regarding the needs of lingua franca users (Seidlhofer, 2005), there is more acceptance of a broader set of language models. Teaching materials increasingly feature speakers of a wider range of target language varieties, such as speakers of regional varieties, outer circle speakers (Kachru, 1990) and non-native speakers (though bias in the selection has not been abolished). What is still astonishingly rare, though, is teaching material that includes language models for non-monolingual communication. While textbooks influenced by the CEFR may contain mediation tasks drawing on more than one language, real examples of non-monolingual communication are rare.

Games that are rich in dialogues – between Player Characters (PCs), between Non-Player Characters (NPCs), or between PCs and NPCs – can provide models of plurilingual communication: code-switching, language choice depending on setting and interlocutor, intercomprehension, etc. Furthermore, the

multimodal setting of games can provide a rich context in which these practices are embedded.

4.2 Fostering language awareness

Language awareness – or (quasi-synonymously) *metalinguistic awareness* – is the "explicit knowledge about language, and conscious perception and sensitivity in language learning, language teaching and language use" (Association for Language Awareness, November 18th, 2020, bold in the original). Jessner defines metalinguistic awareness as "the ability to focus attention on language as an object in itself or to think abstractly about language and, consequently, to play with or manipulate language" (Jessner, 2006, p. 42). It is assumed that language awareness – or at least aspects of it, such as syntactic or morphological awareness – support language learning/acquisition (for a DST perspective: Jessner, 2008; for an overview, see also Garrett & Cots, 2018). Fostering it in the EFL classroom and beyond may therefore be valuable.

Language awareness is relevant for game-based language learning/teaching for two main reasons. Firstly, in ordinary language use contexts, language is used for communicative purposes. In play contexts, though, language can be used for communicative purposes, but it can also be used as *objects* of play. In this sense, games and play – be it in the form of an app, or other ludic manipulations of language (e.g., Pig Latin, word games, songs such as *Apples and bananas*) – demonstrate language awareness and probably also foster language awareness.

Language awareness activities of this type do not have to be limited to games, but also include play more broadly. They often involve stepping outside the magic circle (Huizinga, 1938) of playing pretend that words mean things to look at the building blocks themselves. Digital games can provide an interesting playground for such activities, where players can look at language as an object, manipulate language and its forms, and develop their language awareness. This, naturally, does not have to be limited to one language at a time, but can also involve playful manipulation of, or comparisons between, multiple languages. Even when only one language is involved, it can be assumed that an increased language awareness might be beneficial for further language learning/acquisition, contributing indirectly to plurilingual competence.

Language awareness, it must be stated, is not only the domain of games that treat language exclusively as form. While form-focusing games can foster, for example, morphological awareness, a broader perspective on language awareness helps us to see how other, more narrative games can contribute to language awareness, especially from a plurilingual perspective.

James and Garrett (1991) present a broad view of language awareness that is especially useful when discussing plurilingual competencies and games. They distinguish between five domains of language awareness: *affective* ("to form attitudes and to awake and develop attention, sensitivity, curiosity and aesthetic response" (Garrett & James, 1991, p. 310)), *social* ("to foster better relations among all ethnic groups" (Garrett & James, 1991, p. 310)), *power* ("to give

the individual control over language and language learning for the achievement and expression of, as well as sensitivity to, identity and purpose"(Garrett & James, 1991, p. 310)), *cognitive* ("to improve intellectual functioning" (Garrett & James, 1991, p. 310)) and *performance* ("to improve proficiency" (Garrett & James, 1991, p. 310)). Games can provide opportunities to reflect on the social and power domains of language awareness, for example by reflecting plurilingual language use in their plotlines and narration, or by offering choices regarding language use.

Such language awareness activities could also be based on other narrative products like movies or short stories. Unlike most movies or stories, though, games are *future narratives* (Bode & Dietrich, 2013), that is, characterized by openness, indeterminacy and virtuality, "allowing the reader/player to enter situations that fork into different branches and to actually experience that 'what happens next' may well depend upon us, upon our decisions, our actions, our values and motivations" (Bode & Dietrich, 2013, p. 1). This means that they can allow players to try different ways of using language and observe the effects this has on them as players, on their (virtual) interlocutors, and on the continuation of the plot[1].

4.3 Transformational play

Identity plays an important role in language learning and language use. Norton describes *identity* as "the way a person understands his or her relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future" (Norton, 2013, p. 4). Identity and identity-related constructs played and play an important role in SLA, especially the historical model by Gardner and Lambert (1972), *Self Determination Theory* (Ryan & Deci, 2002), and Dörnyei's *L2 Motivational Self System* (Dörnyei, 2010), which has since been extended from L2 contexts to multilingual contexts (Henry, 2017). While identity is an important concept in SLA and CALL, and has been extended to encompass plurilingual orientations, there is very limited work on multilingual identity and digital games (but see e.g., Buendgens-Kosten, 2022).

There is, though, an identity-related concept that has been designed explicitly with games in mind: the notion of *transformational play*. Transformational play can take place while playing narrative games and involves "taking on the role of a protagonist who must employ conceptual understandings to transform a problem-based fictional context and transform the player as well" (Barab et al., 2010, p. 525). I argue that this notion is applicable not exclusively to the use of conceptual understandings but might also extend to the strategic in-game choice of languages, dialects, sociolects and registers, and the combination and mixing of these in communicative settings. Just like with content learning, in games that forefront language choice and language use, a player can be a "*Person With Intentionality*" (i.e. positioned as "protagonist(s) with the responsibility of making choices that advance the unfolding story line in the game"), engage with *"Content With Legitimacy*", which "position(ing)[s]

the understanding and application of academic concepts as necessary if players are to resolve the game-world dilemmas successfully", and act within a "*Context With Consequentiality*" which "position[ing]s contexts as modifiable through player choices, thus illuminating the consequences and providing meaning to players' decisions" (Barab et al., 2010, p. 526, italics in the original).

5. Let's play!

In the section above, I have discussed theoretical notions that allow us to connect the domain of GBLL/GBLT with considerations of plurilingualism/fostering plurilingual competence. In this section, I will look at five digital games currently available, all designed explicitly for learning languages or learning about languages, which have the potential to support plurilingual skill development connected to one or more of these theoretical notions. These five games are *Romanica*, *Melang-E*, *BabelAR*, *LoCALL*, and *World of Languages*. I will provide focused descriptions of these games based on my experiences playing them and/or being involved in their development, as well as taking supplementary material (websites, publications) into consideration. The purpose of this chapter is not only to provide illustrations for the theoretical points raised above, but also to demonstrate how broad the existing range of multilingual games is, and to identify patterns as well as gaps that might inform future areas for development.

As I have previously observed in Buendgens-Kosten (2020), most products and projects that take an explicit multilingual or plurilingual perspective are non-commercial and often developed through public funding, such as with Erasmus+ grants. This also applies to all five games discussed here, which were developed through a range of funding sources (European Union's Erasmus+, France's *Ministère de la Culture*, AHRC) and are available free of charge and free of advertising.

5.1 Save a dying world with Romanica

Romanica (Ministère de la Culture 2019a, 2019b) is an app in which the player engages in intercomprehension mini-games to save a world that is threatened by monolingualism. The game, published by the French *Ministère de la Culture*, is reminiscent of commercial casual games such as *Candy Crush Saga*, in so far as the player has to complete mini-games in a pre-defined sequence to move through a map. The mini-games involve sorting words or multiword expressions falling from the top of the screen into one of two buckets. These buckets can be based on meaning (e.g., one bucket for "agreeing", one bucket for "disagreeing"), or on language (e.g., one bucket for "French", one bucket for "Romanian"). Over time, more Romance languages are introduced, giving the player exposure to frequently taught and less frequently taught languages of the same language family.

The game draws heavily on players' ability (a) to identify languages, and (b) to draw on their full repertory to deduce meanings of words/multiword

units not part of their repertory. Both require the player to look at language as object, that is, to draw on language awareness (narrow understanding). Supplementary information that is unlocked through successful play provides knowledge that might support language awareness in a broad understanding as well.

There are as yet few publications that discuss *Romanica*. In Buendgens-Kosten (2022) I analyzed the game relative to multilingual identity and concluded that, through the introductory story and the game design, the game posits a world in which multi/plurilingualism is the norm, and where a player has to face their prejudices and doubts and act as a manipulator of language(s)-as-objects to save a dying world.

5.2 Win the band contest with MElang-E

In *MElang-E* (Elsner et al., 2017), created within the Erasmus+ project of the same name, players take the role of Mali, a teenager from Oxford, and use dialogue trees to achieve in-game goals (re-unite his old band, compete in a band contest). For example, to complete the game, the player (in the role of Mali) has to persuade his former band member Marie to join him for said band contest. After he finds Marie in Frankfurt, he has to help her with a university assignment before she has time to listen to his request. He – and, consequently, the player – interviews different people on a Frankfurt shopping street about their habits, drawing on English and rudimentary German, and also encountering other languages people in Frankfurt use to communicate.

The only actions the player can take are to click on objects/places/characters in the game (e.g. selecting where to go, whom to talk to) and to choose from pre-scripted dialogue options. Among other things, these pre-scripted dialogue trees allow the player to choose between different languages in their responses. Consequently, the player can experiment using a range of languages they would not normally use, or use them in contexts they would not normally use them in. This might offer potential for transformational play.

Also, Mali encounters many NPCs with different linguistic repertories. These NPCs demonstrate a wide range of plurilingual practices, from code-switching to intercomprehension, providing models of successful plurilingual communication at very different levels of linguistic proficiency. Furthermore, the presence of a range of different languages in the game – always depending on the specific location and interlocutors – allows the players to have language awareness-related in-game experiences and to practice their own intercomprehension skills.

As yet, there are no empirical studies on MElang-E. Buendgens-Kosten et al. (2019) and Buendgens-Kosten and Elsner (2018b) are conceptual papers, discussing the game and its affordances from a multilingual CALL perspective. In Buendgens-Kosten (2022), I look at MElang-E from an identity perspective and describe how the game allows players to experience/imagine themselves as language users in a broad range of contexts and settings, potentially contributing to an “elaborate and vivid future self image” (Dörnyei, 2010, p. 19). Elsner

and Lohe (2021) make suggestions for the implementation of MElang-E in the secondary school classroom.

5.3 Treat a cuddly monster's amnesia with BabelAR

BabelAR (Waterzooi, 2021; VirtuaLApp n.d.) is an augmented reality game, developed by the VirtuLApp Group and funded through the European Union's Erasmus+ program (Lourenço et al., 2020).

It is designed to be played by several learners on a shared device. The players select the languages they already know and those they want to explore. The game provides a total of 14 languages, including Germanic languages (Dutch, English, Frisian, German), Romance languages (French, Italian, Portuguese, Spanish), Slavic languages (Polish, Russian), and other languages (Arabic, Basque, Irish, Turkish) (VirtuaLApp, n.d).

The overarching plot of the game suggests that Babelar, a cuddly flying monster, has hit their head and lost memory fragments. There are two play modes. Firstly, the players need to find these memory fragments. To do so, they need to follow instructions that draw on the languages selected. In a chat-like communication window, in which both Babelar and the memory fragment communicate with the players, it is first confirmed that the instruction has been understood (hints can be used here, see discussion below). Then, an augmented reality "portal" can be opened. Here, the player follows the instructions and tries to find the object or animal described, for example, an elephant going westwards ("Find the olifant going westwaarts."), or a surprised volleyball ("Find der überraschte Volleyball."). Secondly, there are mini games that players can use to earn acorns, which they can exchange for hints. These mini games require the players to match words in different languages, for instance, to find all words in a list that express *yellow*. These mini games draw on a broader range of languages than the first play mode.

The first play mode might fit under the umbrella of modelling plurilingual communication. In the chat dialogues, the memory fragment speaks another language than Babelar, confirming or rejecting guesses in the language under focus at that moment (e.g., for Dutch "NEE! NEE! NEE!" followed by a range of emojis). If seen as an example of plurilingual communication, the chat dialogue is a bit awkward, though, as the instructions borrow noun phrases without regard for cases (see examples above). In spontaneously occurring bilingual communication, modification for case could be expected – though, within the logic of the game, this might be attributed to Babelar's temporary partial aphasia. More meaningful here, though, is the communication that might occur during game play. The game is always played by at least two players, who indicate at the start of the game which languages they know and which languages they want to explore. When two players with different linguistic profiles play together, they need to combine their linguistic knowledge during game play. For example, when Jane and Joe play together, and Jane indicates using Dutch at home, while Joe indicates using Spanish at home, the challenges Jane needs to solve will be in Spanish, while the challenges Joe needs to solve will be in

Dutch. In other words, when two players with different linguistic profiles play together, one of them can explore a language not known or little known to them, while the other person is positioned as an expert, allowing for both language awareness work and identity-related work.

The second play mode, on the other hand, fits well the category of language awareness (narrow understanding), as contrasting and comparing languages plays an important role here. A large range of languages can be included in this game mode, including languages the players do not speak but wish to explore.

5.4 Discover the multilingual linguistic landscape around you with LoCALL

LoCALL (*LOcal Linguistic Landscapes for global language education in the school context*; Ciramagin, 2022, LoCALL Project, n.d.) is an Erasmus+ funded project and app. The app adapts (pedagogic) linguistic landscaping activities into the digital realm, presenting different local linguistic landscapes together with quiz questions related to them[2].

Linguistic landscaping is both a research methodology used to document and analyze multilingualism in public places (Cenoz & Gorter, 2006; Schmitt 2018) and a pedagogic practice designed to foster language awareness (broad understanding) (Malinowski & Dubreil, 2012; Sayer, 2010). Pedagogic linguistic landscaping is the practice of documenting and analyzing the linguistic landscape, i.e. the visual representations of language(s) in one's environment (cf. soundscape for the acoustic representations of language(s)), in order to foster language learning-related goals, such as increasing language awareness (broad understanding), raising motivation for language learning, or creating an awareness of the environment as a source of language learning (especially with languages that play an important role in one's linguistic landscape, e.g. English in many countries).

Players choose one city to explore; unfortunately, not all cities are available for all languages. In the Strasbourg tour (English version), the player visits a school in Molsheim and takes a tour through the town from there. They encounter different artefacts such as buildings, statues, plaques and signs that are in different languages or that that have a connection to specific languages. Some questions are simple requests to identify languages or find parallel words – but others encourage reflection on a deeper level, touching on a broad understanding of language awareness: e.g. "Have you noticed that the word "im Elsass" is a sticker?... Who do you think could have added this sticker? In your opinion, who are the different stakeholders contributing to linguistic landscapes?". This way, the app connects well with language awareness, both in a narrow and a broad understanding.

Brinkmann et al. (2022) present classroom research done as part of the LoCALL project. Two classes, in Germany and the Netherlands, engaged in pedagogic linguistic landscaping in a traditional, paper-based format. Drawing on classroom observation, teacher interviews, student questionnaires and work samples, the authors conclude "that the pedagogical introduction of LLs in the (language) classroom enabled students' plurilingual repertoires to be activated,

legitimized, shared, and (re)constructed by means of engagement in plurilingual practices” (Brinkmann et al., 2022, p. 107). While this paper does not look at actual use of the LoCALL app, it might be considered as work that contributed to the development of the app.

5.5 Learn more about the different languages and their roles in society with World of Languages

World of Languages (MEITS, 2021) is a website developed by the interdisciplinary research group MEITS (Multilingualism: Empowering individuals, transforming societies), funded by the AHRC. It is an adaption of an interactive museum exhibit (Ayres-Bennett, 2000) into a digital format, and presents nine mini-games (quizzes), three each in the categories (referred to as “zones”) of *Languages and Me*, *Languages around Me* and *Languages in the World*. Each mini-game/quiz focuses on one language awareness-related aspect, such as recognizing different languages or accents, guessing the meaning of words in different languages, or knowledge about linguistic diversity. For each quiz, which lasts a few minutes at most, players can earn one star, two stars or three stars, depending on accuracy and speed of their responses.

The stated purpose of World of Languages is to show that “learning languages is fun and easier than you might think”, as well as that “multilingualism is now the norm and learning a language offers them a route into some fascinating careers” (https://www.meits.org/news/item/world-of-languages-goes-online). It is clearly associated with language awareness, with some quizzes leaning more toward language awareness in the narrow, and others to language awareness in the broad sense.

5.6 Summary

Table 1 provides a short summary. “+” indicates that an element is present, while “++” indicates it is a key element of the game. A “0” indicates the absence of a factor. The table should, therefore, be read as an overview of design decisions and not as a ranking of game quality.

Table 1. Summary

	Modelling plurilingual competence	Fostering language awareness (narrow sense)	Fostering language awareness (broad sense)	Transformational play
Romanica	0	++	+	0
Melang-E	++	+	+	++
BabelAR	+	++	0	0
LoCALL	+	++	++	0
World of Languages	0	++	++	0

6. Let's learn – Conclusion

We already have a growing understanding of how to support learners in developing plurilingual competence, and how to draw on existing plurilingual competence for language learning. Teachers who wish to adopt a plurilingual pedagogy in their classrooms can draw on a range of publications and projects to support them in this endeavor.

The same reasons games are of great interest to language learning pedagogy more generally – their rich input, multimodal design, interactivity, potential for communication within and about the game – also come into play when talking about games from a plurilingual perspective. Yet research in this area is much more limited, as is the availability of material that is ready for use in the classroom.

In this article I have used concepts, both from game pedagogy and from plurilingual pedagogy, to describe five plurilingualism-fostering games. In this section, I will first discuss overall trends that can be observed across the five games and that might open up interesting avenues for game designers. Afterwards, I will touch on the ramifications of this regarding pedagogy and future research.

What can be seen in this analysis is that all of the games discussed support language awareness to some degree. On the other hand, modelling plurilingual language use or support for transformational play are rarer. Transformational play requires a strong narrative element, combined with the freedom to make choices. Many games have some narrative elements (an animation showing Babelar losing memory fragments in an accident, a text introduction explaining how the once happy land of *Romanica* is threatened by encroaching monolingualism), but these narrative elements do not provide the necessary Context With Consequentiality that "positions contexts as modifiable through player choices, thus illuminating the consequences and providing meaning to players' decisions" (Barab et al., 2010, p. 526).

Most of the games presented here are single player games. Only *BabelAR* fully draws on the potential of players working together, drawing on their own and their partner's linguistic repertory. While it is possible for learners to play

all of the games listed here using a shared screen (and some of the teaching material accompanying the *MElang-E* game suggests this), already considering this at the stage of game design seems to be a promising pathway. Where this is not an option, accompanying teaching material (or material developed by the teacher using the game) may play a compensatory role. Both approaches – encouraging co-playing through game design and through pedagogical tasks – can contribute to "modelling plurilingual language use", with the co-players and fellow students providing the models rather than the game itself.

For teachers, one of the key concerns is not only the availability of digital games, but also how best to utilize them in their teaching practice. Some of the products come with extensive teacher notes or other supplementary material (e.g., *MElang-E, Babelar, LoCALL*) that supports teachers in implementing the games in their specific teaching contexts. Other games were not originally developed for school contexts (*Romanica*) or were digital adaptations of existing learning spaces (*World of Languages*). Here, teachers can use the material as is, or develop supporting material for classroom use.

Not every game experience in an educational context requires extensive pre-playing, while-playing, and post-playing activities. A general recommendation, though, is to at least engage in some debriefing activities.[3] Debriefing is "the occasion and activity for the reflection on and the sharing of the game experience to turn it into learning" (Crookall, 2010, p. 907). It consists of (physically or metaphorically) stepping away from the activity to be debriefed, and engaging in descriptions of events, analysis of performance, and discussions of applicability to the real world/other contexts (Nicholson, 2012). For games that do not include their own reflection/debriefing activities, debriefing activities that encourage players to reflect on their gaming experience regarding how they have developed their linguistic competencies and what they have learned about language(s) might be easily developed. York (2020) provides some relevant suggestions for debriefing with GBLL in general that could be adapted for this purpose.

One element that is notable is a relative scarcity of research regarding the effects of plurilingual games on skills development, identity or other affective factors. Does playing *Romanica* improve intercomprehension skills? Does playing *MElang-E* encourage code-switching? Does *BabelAR* spark pride in one's existing linguistic skills, and create a desire to learn/acquire more languages? Similar studies exist regarding other kinds of pedagogic interventions (Busse et al., 2020; Cutrim Schmid, 2021; Forbes et al., 2021; Leonet et al., 2020), but not yet regarding the use of digital games with a plurilingual outlook. As many of the games presented here stem from ongoing or recently completed projects, it can be assumed that they will, in their turn, become objects of research, contributing to a gradual reduction of the "monolingual problem" of CALL (Buendgens-Kosten, 2020).

Notes

1. Naturally, the same also applies to game-like films and books, such as "choose your own adventure" books and interactive films like *Black Mirror: Bandersnatch* or *You vs. Wild.*
2. I will discuss only the app itself, not the authoring platform (available at https://locallproject.web.ua.pt) which can be used to develop additional content for the app.
3. deHaan (2020) demonstrates how often debriefing – an essential element of teaching and learning with games – is neglected in language teaching research contexts, mirroring the observation made by Crookall (2010) regarding game-based learning more generally.

Declaration of conflicting interests

The author was involved in the creation of one of the games discussed here (MElang-E). As the game is non-commercial and available free of charge, they consider this involvement not to pose a conflicting interest.

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