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Work-in-Progress—Cozy Games for Learning: Vocabulary Practice with Anim-ELLE Crossing

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Abstract. This work in progress paper outlines the ways that cozy games are ideal genres for educational games, with an example created by the second author and several groups of computer science undergraduates titled, Anim-ELLE Crossing. The authors add specific pedagogical elements to Kalmpourtzis's and Schell's game design elements framework specific to the design of educational games teaching a second language (L2), also articulating the ways that the cozy elements of safety, abundance, and softness can be leveraged for L2 acquisition within the game design elements of mechanics, story, aesthetics, technology, and pedagogy.

Keywords: Educational Games, Language Acquisition, Second Language (L2) Learn-ing, Cozy Games, Animal Crossing.

1 Background

Learning a new language is hard work, requiring the retention of thousands of words in order to communicate effectively. Novice learners are easily overwhelmed and discouraged by the challenges presented by long lists of terms that each carry their own definition, spelling, and pronunciation. To alleviate this frustration and feelings of tedium in vocabulary acquisition as well as many other types of knowledge, many instructors are turning to games [1]. Integrating video games into education can potentially create engaging learning experiences and supplementing traditional forms of instructor-led pedagogy, especially in the aspects of second language (L2) vocabulary acquisition. Studies suggest that when content is presented to learners in the format of a video game, it can increase learner engagement, motivation, and learning outcomes [2].

Research indicates that technology and video games can be beneficial for L2 learning, as well [3]. L2 acquisition has benefited from technological advances, and video games have been used in a variety of ways to teach and improve language knowledge [4]. Computer assisted language learning (CALL) research continues to advance, with Su and Zou's 2022 review article finding that the majority of scholarship dealt with vocabulary learning, speaking, and learner collaboration, and calling for future development of higher-order thinking skills in the context of L2 acquisition [5]. This paper investigates the genre of video games called "cozy games" as having potential to be effective L2 learning games, with an example we designed, *Anim-ELLE Crossing*.

1.1 Cozy Game Elements

The popularity of casual games, such as those played on smartphones, social media platforms, and web browsers, has elevated the status of social video games and changed video games into more mainstream culture. This reimagining of video games, starting in the mid-2000s, described as a casual revolution by Jesper Juul, produced more flexible designs and targeted a general audience [6]. Though precise definitions of the term "immersion" are debated, we view immersion as a cognitive state of players influenced by a game's factors and contexts [7]. Not physically immersive like virtual reality (VR) headsets, casual games played on computers or mobile devices, can engage the player enough so that they feel immersed in the game world, with studies showing similar feelings of engrossment from players in desktop PC and VR headsets [8].

It is important to also note that when discussing L2 acquisition, the term “immersion” takes on additional meaning. For language instructors, immersion indicates a setting where learners are surrounded by the language and culture of the L2 [9].

Defining Coziness. Casual games are typically defined as games that are easy to learn, have appealing content and simple, forgiving gameplay, offer rapid rewards, and allow short play sessions: which combine to create a pleasurable experience overall [10]. Juul lists the five elements of casual game design: fiction, usability, interruptiblity, difficulty and punishment, and juiciness (excessive positive feedback) [6]. In contrast to so-called "hardcore" games entailing aggressive competitive play, casual games typically contain rote habits, simplistic graphics, and straightforward play mechanics [10, 11]. The word "casual" refers to the game style, the playing style, the player, as well as other factors [6].

In the evolving landscape of casual game design and player expectations influenced by the changing sociopolitical and cultural dynamics, the genre "cozy games" emerged within the broader context of casual games [12]. While sharing certain attributes with casual games, such as interruptiblity, accessibility, and simplicity, cozy games distinguish themselves with their explicit focuses on creating a low-stress environment that provide safety and abundance for players by default. Defined in the context of feminist and inclusive design, cozy games feature softness, safety, and abundance [12]. Softness is realized via visual and auditory art style and design, which works to provide soothing cues while keeping them highly engaged in the gameplay [10]. Thus, cozy games typically have charming artwork, soothing audio, and simple mechanics like farming [12].

Safety and abundance in cozy games are typically accomplished by designing the gameplay without danger, strict time constraints, or harsh consequences for making mistakes; and instead focusing gameplay on exploring and completing simple, repetitive tasks that are not time-limited [12], which help satisfy players’ needs on Maslow’s Hierarchy [13]. Though Maslow’s hierarchy is contested by some who have found that these needs seem to vary based on individual contexts [14], cozy games do meet these needs and are linked by other game scholars [12, 15]. According to the hierarchy, humans are motivated by the desire to satisfy five needs: physiological, safety, love and belonging, esteem, and self-actualization, ordered in a pyramid [13]. The first four are categorized as deficiency-motivated (survival) needs, and self-actualization as growth-motivated. Cozy games fulfill both types via safety and abundance [12].

Cozy Games as Immersive Learning Environments. Although the intersection of cozy games and education has not been extensively explored in scholarly discourse, integrating the cozy aesthetics into educational game design has theoretical grounding for improving educational outcomes. Cozy games can be engaging and immersive, meet the learner’s basic needs, align with cognitive load theory, and are conducive to learner-centered pedagogy. The relaxing and comforting environment that cozy games provide induces positive emotions that prime players for learning and, like casual games, can promote immersion (as discussed above).

Cozy games are structured in a way that reduces cognitive load by providing a sense of safety without time limits or punishments, allowing students to focus their cognitive resources on learning the educational content rather than complicated game mechanics. Sweller’s Cognitive Load Theory (CLT) [16] asserts that human working memory has a finite capacity for processing new information. Effective instructional design reduces cognitive load by balancing the complexity of the content and the level of interactivity [16]. Cozy games do not impose a large cognitive load on players, allowing player-learner attention to focus on learning tasks rather than overwhelming game elements.

Animal Crossing: New Horizons (ACNH), a social simulation video game that became incredibly popular during the pandemic, viewed as an immersive escape from pandemic stressors as well as a platform where players could safely socialize [12]. *ACNH* simulates daily life activities and facilitates real-life social interactions as players can go visit other players' islands [17]. Players can craft and personalize their experience within the game world, fostering engagement and replay while also satisfying Maslow’s deficiency-motivated and growth-motivated needs [15].

2 Designing Educational Cozy Games

Game design is a complicated, interdisciplinary process that includes several design elements and principles; educational game design adds pedagogical practices to this [18]. Jesse Schell [19] proposes the Elemental Tetrad to describe the four basic elements of game design: mechanics (procedures and rules), story (narratives and contexts), aesthetics (visual, auditory, and haptic feedback), and technology (materials and tools). These elements, he argues, are interdependent and should work in harmony to make a good game. George Kalmpourtzis [20]

adapts Schell's Elemental Tetrad into an "Elemental Pentad" in the context of educational game design by centering pedagogy into the framework. Articulating specific L2 learning pedagogical details for each Kalmpourtzis's and Schell's four game design elements can help game designers retain pedagogical focus while developing all aspects of the game (Fig. 1).

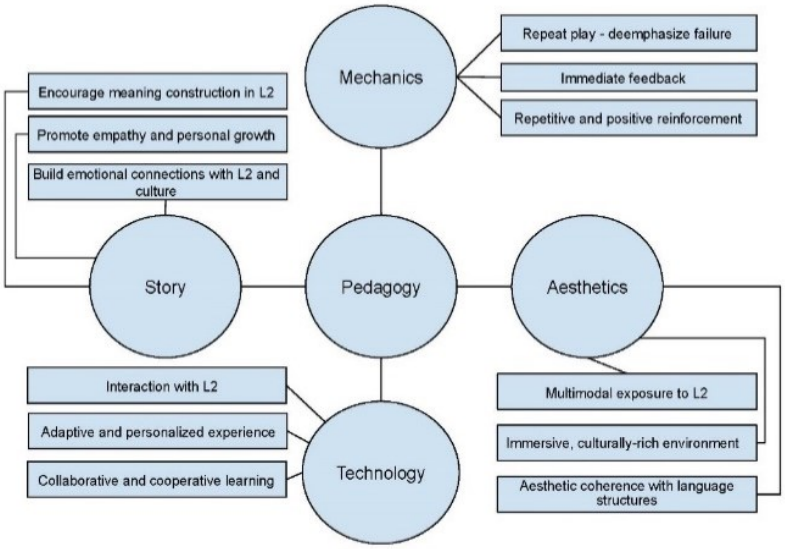

Fig. 1. Pedagogical elements in Kalmpourtzis's and Schell's game design elements.

As we examine the connection between cozy games and the above framework for educational game design, we can build on this framework even further, incorporating the educationally supportive elements of cozy games into L2 acquisition games. The cozy game elements of safety, abundance, and softness can be identified within each of the five elements in our adapted pentad (Table 1). By identifying specific ways that safety, abundance, and softness can be incorporated into an educational game's mechanics, story, aesthetics, technology, and pedagogy, we highlight how these different design choices can work together to create effective educational game design. This is what we did as we co-designed an educational video game to augment traditional L2 courses at our university (described in the next section).

Table 1. Design criteria for incorporating game design and cozy elements into language games.

Game Design Elements	Cozy Element	Cozy Design Aspects
Mechanics	Safety	Free of harsh penalties for mistakes and time limits
	Abundance	Positive feedback, create a sense of fulfilment
	Softness	Game interactions and goals are intuitive
Story	Safety	Storylines provide a sense of security and comfort
	Abundance	Moving plot and rich characters
	Softness	Soft and relatable contexts for language use
Aesthetics	Safety	Pleasant game atmosphere lacking violence or stress
	Abundance	Rich visuals
	Softness	Pleasant color palettes and sounds
Technology	Safety	Platform makes gameplay simple
	Abundance	Various ways to interact with the learning materials
	Softness	User-friendly interfaces
Pedagogy	Safety	Scaffolding and confidence building
	Abundance	Frequent exposure to the target language
	Softness	Deemphasize failure, encourage repeat gameplay

Table 1 articulates the ways that safety, abundance, and softness can be leveraged within the mechanics, story, aesthetics, technology, and pedagogy of educational cozy games. In game mechanics, safety is created by avoiding harsh penalties and time limits, abundance is seen with positive feedback, and softness via intuitive game interactions. For the story elements, safety is fostered through a sense of comfort and security in storylines,

abundance through compelling plots and rich characters, and softness with relatable contexts for language use. In game aesthetics, safety is cultivated through a calm game atmosphere free from violence or stress, abundance is created through rich visuals, and softness with pleasant color palettes and soothing audio. Likewise, technology fosters safety through simple gameplay, abundance with a variety of interaction types, and softness with user-friendly interfaces. Finally, pedagogy fosters safety through scaffolding, abundance in frequent exposure to the L2, and softness by deemphasizing failure and encouraging repeated play. Though there is potential to include all of the cozy elements in all of the game design elements in a given game, this is not typically the case and may result in an overly constrained game design. In the next section, we discuss the cozy elements of an educational L2 acquisition game.

3 Anim-ELLE Crossing

Anim-ELLE Crossing is a part of a larger suite of language learning games called "*ELLE the EndLess LEarner*" (*ELLE*) co-designed by one of the authors and a series of groups of computer science undergraduates over a span of several years (see [21] for more on the backend structure). We continue to push the limits of our database to allow the games to move beyond matching: terms can be tagged so that questions can be asked about part of speech or categories. Questions and phrases along with their translations can also be entered. The suite of games as a whole represents our experimentation with more abstract questions, in an effort to better engage players and encourage them to think *with* the L2 rather than merely *about* it. This paper examines ways that *Anim-ELLE Crossing* aligns with the framework of educational cozy games outlined above.

Taking our inspiration from Nintendo's cozy *Animal Crossing,* we designed the similarly named *Anim-ELLE Crossing* to also be an inviting open world game where players can explore and interact with NPCs to complete tasks and earn currency for an in-game shop. We sought an engaging game for learners to practice L2 vocabulary in the low-stakes and relaxing environment that cozy games provide. Admittedly, *Anim-ELLE Crossing* focuses on vocabulary and does not satisfy all aforementioned design elements of optimal educational, cozy, language acquisition games outlined in Table 1.

In *Anim-ELLE Crossing*, there are two areas, a mainland and an island. On the mainland, players can visit different areas housing four minigames: spelling, multiple-choice, matching, and an image scavenger hunt. After the player has visited each area and earned enough currency, they can board a boat to the island area. On the island, players navigate through a maze using audio clues spoken in the target language. The maze is the most language-immersive aspect of *Anim-ELLE Crossing* in its current state, requiring players to navigate using their vocabulary knowledge. After successfully completing the maze, players can explore the island and play Bingo, where they again use auditory clues spoken in the target language to translate terms.

4 Conclusions and Future Work

Cozy games hold great potential in educational game design, particularly for L2 learning games. The elements of safety, abundance, and softness in this genre align well with the ideal calm and immersive setting of educational environments, helping learners satisfy Maslow's pyramid of needs while also falling under the guidelines of cognitive load theory. By aligning cozy game elements with educational game elements here, we hope to encourage the design of additional educational games in this genre.

Additional work is necessary to implement more of the elements discussed in this paper more meaningfully into our games, and to add to the existing island area in *Anim-ELLE Crossing*. We are currently conducting a large participant study to assess the several ELLE games for immersion, efficacy, and usability, using pretest/posttest translation items as well as items from Keebler et al.'s shortened Game User Experience Satisfaction Scale [22], and we have plans to implement the games into real classroom contexts for additional study beginning Fall 2024.

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Disclosure of Interests

The authors have no competing interests to declare that are relevant to the content of this article.

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