

Play While you Wait: Analog Serious Games in Gastronomic Contexts

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Abstract: Waiting time in restaurants constitutes a passive interval that adversely affects customer experience and their emotional connection with the establishment. This study examines the potential of analogue serious games to transform that waiting period into an experience of experiential engagement and social interaction amongst diners. We report the design, implementation and iterative validation of Sabrosa Oportunidad, an analogue serious game developed by undergraduate students using the Design-Based Research (DBR) methodology at a university in Cartagena, Colombia. The game combines a colour roulette wheel, a Jenga-style tower and gastronomic challenge cards, articulating mechanics of chance, skill and knowledge with rewards linked to the establishment's menu. Two DBR cycles were implemented with 38 participants across five differentiated groups: university students, clients and owners of a gastrobar, and a marketing expert. Data collection combined structured direct observation, a post-game Likert-scale questionnaire administered digitally, and an inter-cycle DBR decision log. Results demonstrate high levels of emotional engagement and spontaneous interaction across all groups: structured direct observation across both cycles recorded that all participants ($n = 38$) engaged with the game as an entertaining activity, whilst the Cycle 2 post-game questionnaire ($n = 11$) indicated that 91% considered that the game improves perception of the service and 82% would be willing to wait longer if games were available. Three transferable design principles emerge from the iterative analysis: collectively observable physical-risk mechanics constitute the most potent mechanism for group emotional engagement; engagement follows a non-linear curve that requires programmed rhythmic variation from the third round onwards; and analogue play activates spontaneous social co-ordination that transcends the designed ludic system. These principles constitute the central scholarly contribution of the study, addressing a design research gap in serious game applications for gastronomic service contexts. Although derived from a single artefact and context, they are proposed as transferable heuristics for the design of analogue game-based interventions in comparable service environments.

Keywords: Serious games, Analogue game-based intervention, Design-based research, Experiential engagement, Waiting time, Gastronomic experience

1. Introduction

The contemporary gastronomic industry has shifted its value logic towards experiential marketing: customers no longer evaluate an establishment solely on product quality, but on the totality of the experience undergone (Cabrera 2019; Cankül *et al.* 2024). Yet one of the most critical moments in that experience remains systematically neglected: the waiting period prior to service.

Waiting constitutes a multidimensional phenomenon in service environments. Maister (1985) established in the foundational service-marketing account of waiting that the subjective experience of a delay, principally determines customer satisfaction, and that unoccupied time is perceived as longer than occupied time. Lahap *et al.* (2018) distinguish three phases in the restaurant customer experience and note that the pre-service phase is one of the most influential determinants of overall establishment perception. When waiting is perceived as passive and unproductive, it significantly reduces customer satisfaction and increases the probability of abandonment (Ülkü *et al.* 2022). Transforming this interval into a participatory experience represents both a design problem and a strategic challenge.

The field of analogue serious games offers a pertinent framework for addressing it. Unlike traditional gamification, defined as the incorporation of isolated game elements into non-ludic contexts (Deterding *et al.* 2011), serious games constitute complete ludic systems with strategic objectives beyond entertainment (Greipl

et al. 2020). Evidence indicates that analogue games activate co-operation, spontaneous discussion and social interaction more effectively than their digital equivalents, precisely because of their tactile and collective character (Fjællingsdal and Klöckner 2020; Conway and Smith 2026). Nevertheless, game-based interventions in physical environments within the restaurant industry remain a scarcely explored field from a design research perspective.

It is in this context that *Sabrosa Oportunidad* emerges: an analogue serious game designed for implementation in restaurants and gastrobars during the waiting period. The game was developed by undergraduate students within a Creativity and Entrepreneurship course, using the Design-Based Research (DBR) methodology, which entailed an iterative process of design, testing and adjustment in real-world contexts. This formative origin is academically relevant: the process of designing the game was an experience of situated learning for its creators, whilst the resulting artefact was designed to generate memorable experiences for its end users (Kolb 1984; McKenney and Reeves 2018).

Sabrosa Oportunidad is thus part of a broader, interdisciplinary research agenda developed at the same institution and oriented towards low-cost, physical game-based interventions grounded in Global South contexts, of which the Game Over model for entrepreneurship education constitutes a parallel strand (Marrugo-Salas 2025). Both initiatives share a common commitment to demonstrating that analogue, undergraduate-led game design can generate transferable pedagogical and design principles from within a Global South setting.

The present study addresses the following research question: *what design principles emerge from the iterative development of an analogue serious game aimed at transforming restaurant waiting time into experiential engagement?*

The paper is structured as follows. Section 2 establishes the theoretical framework articulating analogue game-based interaction, self-determination theory, the MDA framework and experiential engagement in gastronomic environments. Section 3 describes the DBR methodology, the participant sample and the data collection instruments and presents the artefact and the inter-cycle adjustments. Section 4 reports the results of both cycles and derives the three transferable design principles. Section 5 draws conclusions and identifies directions for future research.

2. Theoretical Framework

Games structure interaction between people through shared rules, common objectives and immediate feedback, generating social dynamics that seldom emerge in contexts unmediated by ludic mechanics (Deterding et al. 2011). Analogue games are consistently effective in activating collaboration, peer discussion and situated learning, precisely because of their tactile, face-to-face and collective character (Conway and Smith 2026). Fjællingsdal and Klöckner (2020) demonstrated that board games function as catalysts for social dialogue in non-educational contexts, activating spontaneous interactions that would not otherwise have arisen. From a services-marketing perspective, this is consistent with the servicescape framework (Bitner 1992), which establishes that the physical surroundings of a service encounter actively shape customer and employee behaviour rather than merely forming a passive backdrop to it; an analogue game placed within the dining environment constitutes precisely such a deliberate physical-surroundings intervention. In the restaurant industry, where diners share a physical space yet frequently remain in silence mediated by mobile devices, this capacity of analogue play represents a concrete design opportunity.

While prior work has examined gamification broadly within hospitality settings (e.g. loyalty schemes, app-based rewards), this literature has focused predominantly on digital mechanisms operating before or after the service encounter, rather than analogue, in-situ interventions during a specific structural moment such as the wait itself. *Sabrosa Oportunidad* extends the scope of studies such as Fjællingsdal and Klöckner (2020) and Conway and Smith (2026), both concerned with board games in educational and environmental-communication contexts, by testing whether their documented capacity to activate spontaneous dialogue transfers to a commercial service environment with time-constrained, self-selected participation.

Self-determination theory (Ryan and Deci 2000) posits that intrinsic motivation is strengthened when three basic psychological needs are satisfied: autonomy, competence and social relatedness. Games designed under these principles generate significantly higher levels of participation than those based exclusively on external rewards (Yang and Li 2025). The need for social relatedness is especially relevant to *Sabrosa Oportunidad*: its group mechanics, the shared tower, the collective roulette wheel, the participatory challenge cards, actively satisfy the social dimension amongst diners who may not previously have known one another (Ryan, Rigby and Przybelsky 2006).

The MDA framework, Mechanics, Dynamics, Aesthetics, proposed by Hunicke *et al.* (2004) and established as the dominant reference in serious game design, decomposes the game into three interrelated levels. Mechanics are the structural components that the designer controls. Dynamics are the behaviours that emerge when players interact with those mechanics. Aesthetics are the resulting emotional responses. This framework is directly operational for analysing how each iterative design decision in Sabrosa Oportunidad affected the dynamics and aesthetics observed in each validation cycle (Viudes-Carbonell *et al.* 2021).

Customer experience in gastronomic environments is defined as the subjective, emotional response that consumers construct across all their contact points with the establishment (Meyer and Schwager 2007). Experiential engagement, the level of active participation, enjoyment and involvement during the service, is the strongest predictor of revisit intention and organic recommendation (Bonfanti *et al.* 2023). Research on during-experience involvement in gastronomic contexts highlights the quality of social interaction amongst diners as a critical determinant of the overall dining experience, underscoring that successful establishments actively design conditions for spontaneous interaction to emerge (Akhoondnejad 2025; Bonfanti *et al.* 2023)

3. Methodology

The study was conducted using the DBR methodology, which simultaneously integrates the design of an intervention, its implementation in real-world contexts and the iterative analysis of its effects, with the aim of generating improvements to the artefact and transferable design principles (Hoadley and Campos 2022; Schmalenbach and Ashouri 2025). DBR is methodologically appropriate when the object of study is constructed and transformed in the research process itself, the effects of interest are emergent phenomena that cannot be controlled in laboratory settings, and the objective is to derive principles transferable to similar contexts (Schmalenbach and Ashouri 2025). The study involved 38 participants across five validation groups distributed across two cycles (See Table 1). Cycle 1 (October 2025) took place at a university in Cartagena, Colombia, and at a real gastrobar in the same city. Cycle 2 (March–April 2026) incorporated three additional groups in a university context. Selection was intentional by convenience, a criterion consistent with the exploratory approach of DBR in its initial phases.

Table 1: Participants by cycle and group

Cycle	Date	Group	N	Duration
Cycle 1	Oct. 2025	Marketing students	8	240 min
Cycle 1	Oct. 2025	Gastrobar clients and owners	4	60 min
Cycle 1	Oct. 2025	Marketing expert	1	30 min
Cycle 2	27 Mar. 2026	Group 1 (2M/5F)	7	23 min
Cycle 2	9 Apr. 2026	Group 2 (2M/7F)	9	23 min
Cycle 2	27 Mar. 2026	Group 3 (2M/7F)	9	45 min
Total			38	

Data collection followed a mixed-methods approach (Turner *et al.* 2017), comprising: structured direct observation via a field log; a post-game Likert (1–5) questionnaire administered digitally; a DBR inter-cycle decision log (See Figure 1); and expert validation in Cycle 1. Analysis integrated descriptive statistics for quantitative data and thematic analysis for qualitative data, with convergent triangulation between both sources. Inter-cycle adjustment decisions were systematically documented, ensuring the traceability of the iterative process. Cycle 1 functioned as the initial validation of the prototype in both controlled and real contexts, generating three documented adjustment decisions. Cycle 2 subjected the adjusted prototype to larger groups, enabling the identification of consistent patterns and the derivation of the design principles reported in Section 4.

The use of a post-game Likert questionnaire carries known limitations that should be acknowledged. Administered immediately after a positive shared experience, self-report measures of this kind are susceptible to social desirability bias, particularly in small groups where responses may be visible to peers. The response rate in Cycle 2 (11 of 25 participants, 44%) further limits the representativeness of the quantitative results. Likert-

scale data capture declared attitude; for this reason, the questionnaire was treated as complementary to, the structured direct observation reported in Section 4, and convergence between the two sources was used as the primary basis for interpretation. More broadly, the convenience and purposive sampling strategy, while appropriate to this exploratory phase of DBR, limits generalisability: the sample was small ($n = 38$ across both cycles), no control condition was included, and session duration varied substantially between groups (23 to 45 minutes), a variable that was not held constant and may confound comparisons of engagement across groups.

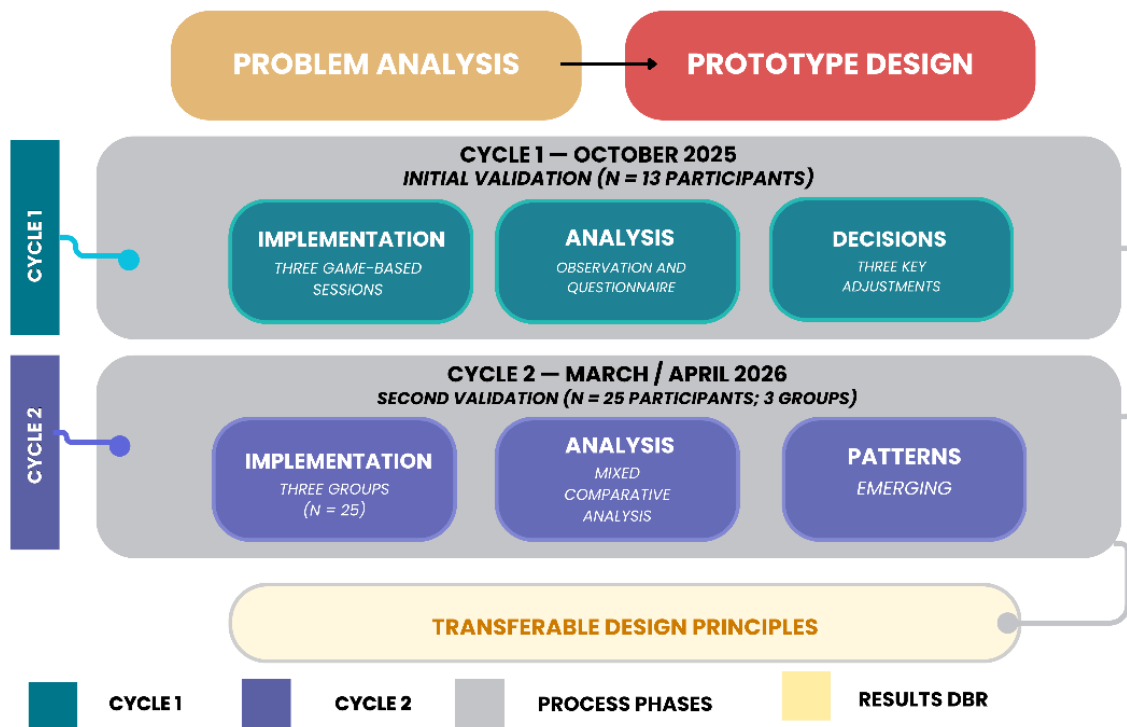


Figure 1: DBR process diagram



Figure 2: Gameplay session

Sabrosa Oportunidad is an analogue serious game designed for implementation in restaurants and gastrobars during the waiting period. It emerged in a university Creativity and Entrepreneurship course as a response to a real problem: the absence of physical, game-based interventions to transform passive waiting into participatory experience. Its development under DBR meant that the design process was itself an experience of situated learning for the creating team. Analysed through the MDA framework, the system comprises five articulated mechanics: the Sabrosa Roulette Wheel (chance, collective anticipation), the Jenga-style tower (manual skill, progressive tension), yellow cards (social and digital challenges), orange cards (gastronomic questions) and red cards (penalties). A points system introduces friendly competition, and rewards, physical products from the establishment's menu, close the motivational cycle. These mechanics generate dynamics of co-operation, shared tension and spontaneous conversation, producing aesthetics of social enjoyment, euphoria and surprise.

To illustrate the player experience, a typical round unfolds as follows: a participant spins the Sabrosa Roulette Wheel, which determines the type of challenge for that turn (social/digital, gastronomic knowledge, or penalty, corresponding to the yellow, orange and red cards respectively). Completing the challenge successfully earns points and, at set intervals, the right to remove a piece from the Jenga-style tower without collapsing it, the moment identified in Section 4 as the point of highest collective emotional intensity. Rounds are self-paced: players initiate and pause play voluntarily, including when food arrives or conversation takes precedence, and play resumes without requiring a facilitator to restart it. This opt-in structure allows the game to run intermittently across the waiting period and, where diners choose to continue, into the early stages of the meal itself.

Positioning *Sabrosa Oportunidad* within the existing landscape of analogue games with gastronomic themes clarifies the distinctiveness of its design objectives. Games such as *Abuela Co, con más sazón*, a competitive card game for two to four players centred on preparing traditional Colombian dishes under time pressure and *Critter Kitchen*, a strategy game in which anthropomorphic chef characters compete to gather ingredients and earn stars in a fictional bistro, share a gastronomic aesthetic but are designed as self-contained competitive experiences. Neither addresses the service environment as a design condition, nor the waiting period as a specific interval requiring intervention. *Sabrosa Oportunidad* is distinguished precisely by this contextual orientation: its mechanics of chance, physical skill and promotional challenge are instruments subordinated to a service logic, the transformation of passive waiting into participatory experience and the generation of organic emotional connection between diners and the establishment.

A further point of comparison lies in the academic serious games literature addressing restaurant service more directly. Nishimura *et al.* (2018) developed a serious game to analyse the intuitive skills of waitpersons navigating a restaurant dining room, explicitly aimed at reducing customers' waiting times at the table. This confirms that serious games have indeed been applied within restaurant service settings, resolving the apparent tension between the scarcity of design research in this area and the existence of isolated prior work. However, its orientation is markedly different from that of *Sabrosa Oportunidad*: it is a digital simulation designed to train and analyse staff performance. Existing serious games in gastronomic service contexts have thus addressed the operational, staff-facing side of the waiting problem, whereas *Sabrosa Oportunidad* addresses its experiential, customer-facing side through an analogue medium: a distinction of both audience and modality that clarifies why dedicated design research on customer-facing, analogue interventions during the specific interval of restaurant waiting remains genuinely scarce.

A third comparison can be drawn with commercial board games that adopt the restaurant itself. *Kitchen Rush* (Bagiartakis and Turczi, Artipia Games/Pegasus Spiele) is a real-time cooperative game in which players take on the role of restaurant owners, using sand timers to represent staff completing kitchen tasks under the explicit objective of avoiding excessive customer waiting. *Sushi Go!* (Walker-Harding, Gamewright), conversely, casts players as diners drafting cards representing dishes on a conveyor belt. Between them, these two games span both principal roles within a restaurant, owner and diner, yet neither positions waiting as the object of design: *Kitchen Rush* treats the customer's wait as a constraint to be minimised through efficient kitchen management, while *Sushi Go!* abstracts the act of dining itself into a self-contained drafting mechanic, detached from any real establishment. *Sabrosa Oportunidad* occupies neither position: rather than simulating the restaurant as a competitive system to be optimised or abstracted, it is embedded within an actual establishment and played by actual diners during their own, real wait, converting that otherwise unaddressed interval into the object of design itself.

The closest commercial precedent to the intervention logic of *Sabrosa Oportunidad* is not a designed board game at all, but a long-standing industry practice: the peg solitaire puzzle placed on every table of the Cracker

Barrel restaurant chain since its founding in 1969, explicitly to give guests something to do while awaiting their food (Woika 2024). Its five-decade persistence and status as a signature element of the chain's dining experience offer independent, real-world confirmation that physical, tabletop interventions during restaurant waiting have genuine commercial value. However, the comparison also sharpens what is distinctive about *Sabrosa Oportunidad*: the peg game is a solitary puzzle, unconnected to the establishment's menu or identity and unchanged by any process of design research; *Sabrosa Oportunidad*, by contrast, is a collective, multiplayer system whose rewards are drawn directly from the establishment's menu and whose design was iteratively developed and empirically validated across two DBR cycles. Where the peg game demonstrates that the market already values keeping diners occupied, this study demonstrates how such an intervention can be deliberately designed, tested and refined to generate social engagement and brand connection rather than individual distraction alone.



Figure 3: Game components

As Figure 3 illustrates, the three main components of the game fulfil differentiated and complementary mechanical functions: the *roulette* wheel introduces chance and collective anticipation, the *tower* introduces progressive physical tension, and the *cards* introduce knowledge, social challenge and penalisation. This distribution of functions ensures that no component is dispensable: the removal of any one would alter the balance between chance, skill and knowledge that sustains the system's engagement.

Between Cycle 1 and Cycle 2, three adjustments were documented: simplification of instructions to reduce initial interruptions; substitution of discounts for physical menu products as rewards; and incorporation of social media-linked challenges in the yellow cards. These adjustments operated on the implementation conditions of the artefact, which allowed the behaviour of the system in Cycle 2 to be evaluated with greater interpretive clarity

4. Results and Discussion

Cycle 1 evidenced positive usability of the prototype, with three orienting findings. Initial instructions generated frequent pauses, signalling disruptions to fluency in early iterations. Despite these early friction points, direct observation recorded that every participant across the university, gastrobar and expert groups engaged with the game as an entertaining activity, evidenced by sustained voluntary participation and visible enjoyment throughout each session. Gastrobar participants expressed an explicit preference for physical menu products over monetary discounts as rewards. The marketing expert identified the incorporation of social media challenges as a strategic opportunity to extend the reach of the experience. These findings guided the three inter-cycle adjustments documented above.

Consistent with Cycle 1, all three groups in Cycle 2 exhibited uniform patterns of engagement: frequent laughter, group support during difficult turns, active participation without the need for a facilitator, and spontaneous conversation not directly linked to the rules of the game. Across the 38 participants observed in both cycles, no instance was recorded of a participant disengaging from or declining to continue the game once it had started. The predominant emotions were joy and euphoria across all three Cycle 2 groups; frustration and boredom were minimal (See Figure 4).

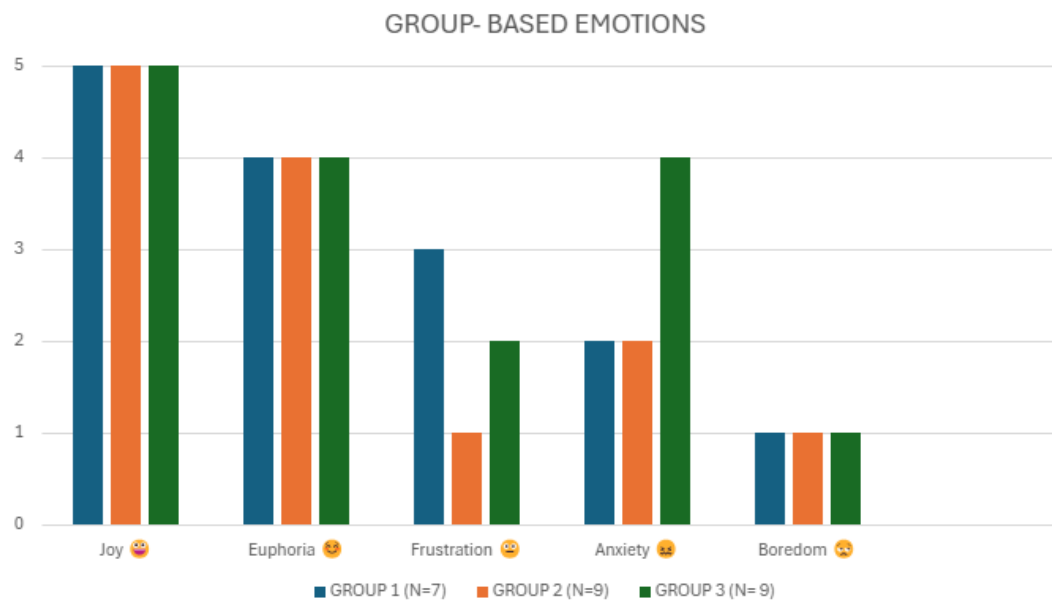


Figure 4: Group-based emotion distribution

Group 1 displayed a decline in energy from the third round onwards in a 23-minute session. Group 2 exhibited the highest level of autonomous flow: participants connected the game with personal experiences, generating spontaneous anecdotes not anticipated by the design. Group 3, in the longest session (45 minutes), showed the opposite phenomenon to Group 1: emotion and positive anxiety that increased progressively with the advance of rounds, reaching its peak during the removal of pieces from the tower.

The post-game questionnaire was administered digitally to the 25 participants in the three Cycle 2 groups; eleven responses were received and are reported below (See Table 2). The remaining participants in Cycle 1 (gastrobar clients, marketing students and expert) were not administered the digital instrument, as Cycle 1 functioned as prototype validation.

Table 2: Summary of quantitative results -Cycle 2

Variable	Result
Level of entertainment vs. mobile phone use	Mean: 4.5 / 5
Comprehension of rules	100% 'Easy'
Facilitation of conversation	Mean: 4.5 / 5
Would motivate a visit or recommendation of the restaurant	82% 'Yes, definitely'
The game improves perception of the service	91% 'Yes'
Willing to wait longer if games are available	82% 'Yes'

In the absence of the game, 55% of participants would have conversed, 27% would have used their mobile phone and 18% would have done nothing, a relevant finding insofar as it indicates that the game potentiates a pre-existing social disposition in the majority of participants.

Comparative analysis of both cycles enables the derivation of three transferable design principles, the characteristic intellectual output of DBR (McKenney and Reeves 2018).

Principle 1 -Physical embodiment of ludic risk is the most potent mechanism for collective emotional engagement

In all three groups in Cycle 2, the removal of tower pieces was the moment of greatest emotional intensity, producing the most pronounced responses of euphoria, tension and group support, independently of group size, session duration and participant profile. The cross-group consistency of this pattern, observed in groups of seven, nine and nine participants respectively, across sessions of 23, 23 and 45 minutes, and with participant profiles ranging from university students to gastrobar clients, constitutes the strongest empirical basis of this study. It suggests that the mechanism is robust to variation in group size, session duration and social familiarity, which is precisely the condition required for a design principle to be transferable rather than context-dependent. This is consistent with evidence that embodied, face-to-face interaction generates forms of engagement qualitatively distinct from those produced by digital interfaces (Conway and Smith 2026) and supports the position that physical risk collectively witnessed is not merely one mechanic among others but the vertebral element of the system. When risk is physical and simultaneously visible to all, what flow theory describes as action–awareness merging is activated, the fusion between individual action and group awareness (Csikszentmihalyi 1990). From the perspective of self-determination theory, the tower simultaneously satisfies competence and social relatedness in each turn (Yang and Li 2025).

Principle 2 -Engagement follows a non-linear curve requiring programmed rhythmic variation

Group 1 evidenced an energy drop after the third round in 23 minutes, despite a globally positive perception of the game. Group 3 showed the opposite phenomenon over 45 minutes, where the growing instability of the tower functioned as a natural re-escalation mechanism. This divergence suggests that the engagement curve is sensitive to the balance between familiarisation with mechanics and escalating perceived difficulty: when familiarisation exceeds difficulty, the system enters a boredom zone. It should be noted, however, that session duration and group composition were not independently varied: Group 1's shorter 23-minute session and Group 3's longer 45-minute session also differed in participant composition, so duration and composition cannot be fully disentangled as explanatory factors in the present data. Isolating these variables is identified as a priority for future validation cycles.

Principle 3 -Analogue play activates spontaneous social co-ordination that transcends the designed ludic system

In all groups, social behaviours not anticipated by the rules were recorded: personal anecdotes linked to the challenges, emotional support between players during difficult turns, jokes and conversations running parallel to the game. The artefact functions as what the literature terms a third-place prop: an object that structures interaction without determining it, allowing forms of sociability to emerge that participants would not have initiated spontaneously (Ayache *et al.* 2021; Bonfanti *et al.* 2023). This finding is especially relevant in gastrobars, where diners share the space but lack a predefined interaction framework.

A further design implication emerges from this principle, one that the observational data from this study implicitly corroborate: ludic interventions in gastronomic contexts must respect the inherently social character of food. Research on playful human-food interaction indicates that diners value retaining agency over when to engage with a game, interventions that impose a fixed rhythm or interrupt ongoing conversation risk undermining the very sociability they seek to activate (Altarriba Bertran and Wilde 2018). In all three Cycle 2 groups, participation in *Sabrosa Oportunidad* was initiated by the players themselves rather than by a facilitator, and the game was paused spontaneously when conversations or external interactions took precedence. This opt-in dynamic is constitutive of to the artefact's effectiveness: it transforms the game from an imposed activity into a resource that diners appropriate on their own terms, which is precisely the condition under which spontaneous social co-ordination can emerge.

This interpretation is further supported by the counterfactual data collected in Cycle 2: in the absence of the game, 55% of participants reported they would have conversed spontaneously, 27% would have used their mobile phone and 18% would have remained inactive. The game potentiated and structured a pre-existing social disposition in the majority of participants whilst converting screen-directed attention into face-to-face engagement. This distinction is theoretically significant: *Sabrosa Oportunidad* functions as a social catalyst, which explains both its effectiveness and its compatibility with the inherently convivial logic of the gastronomic experience

The three principles maintain coherence with the theoretical frameworks set out in Section 2: Principle 1 connects with the MDA aesthetics of fellowship and challenge; Principle 2 with the challenge–skill balance of flow theory; and Principle 3 with the social relatedness dimension of self-determination theory and the concept of conviviality in gastronomic experience

5. Conclusion

This study set out to answer the following question: what design principles emerge from the iterative development of an analogue serious game aimed at transforming restaurant waiting time into experiential engagement? The two DBR cycles implemented with 38 participants across five differentiated groups generated sufficient convergent evidence to answer that question with three transferable principles, which constitute the central intellectual contribution of the study.

This study demonstrated that *Sabrosa Oportunidad*, an analogue serious game developed under the DBR methodology, constitutes a viable intervention for transforming restaurant waiting time into an experience of experiential engagement and social connection amongst diners. The two validation cycles, with 38 participants in total, generated consistent evidence of the artefact's effectiveness in activating emotional engagement, spontaneous conversation and voluntary group participation.

The central scholarly contribution of the study comprises three transferable design principles derived from the iterative process: first, embodied and collectively observable physical-risk mechanics are the most potent mechanism for generating group emotional engagement; second, engagement in waiting games follows a non-linear curve requiring programmed rhythmic variation from the third round onwards; third, analogue play activates spontaneous social co-ordination that transcends the boundaries of the designed ludic system, transforming the entirety of the waiting period rather than merely the moments of explicit gameplay.

From the perspective of DBR, these principles are open propositions subject to further iteration: their validity must be tested in more diverse contexts, different establishment profiles, age ranges and gastronomic cultures, in order to determine their actual scope of transferability. *Sabrosa Oportunidad* is thus positioned as an evolving artefact, whose iterative design process is itself a replicable model for the development of physical, gamified interventions in service environments.

A further limitation concerns the service-staff perspective, which was not systematically documented in either cycle: it remains an open question whether an in-progress game creates friction at the moment food is served, for instance if staff must navigate around the game components or interrupt play to deliver dishes. Future iterations should incorporate structured feedback from waiting staff to assess this dimension of feasibility.

Ethics Declaration: This study was conducted within a regular educational innovation context and involved low-risk pedagogical activities. Formal ethics committee review was not required under the applicable institutional context. Participation was voluntary. All participants were informed about the purpose of the study, the use of anonymised data for academic research purposes, and their right to withdraw at any time without consequence. No sensitive personal data were collected. All responses were anonymised prior to analysis and handled in accordance with applicable Colombian personal data protection regulations.

AI Declaration: Artificial intelligence tools were employed in a supportive capacity during the preparation of this manuscript, particularly for the translation of content from Spanish into academic English, language refinement and stylistic improvement. Machine-assisted outputs were critically reviewed, edited and validated by the authors to ensure technical accuracy, contextual coherence and disciplinary appropriateness. All substantive intellectual contributions, methodological decisions and final interpretations remain the responsibility of the authors. This human-supervised approach preserved academic integrity while enhancing the clarity and communicative quality of the manuscript.

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