

Published by :



filmeu

European Universities Alliance
for Film and Media Arts

DEPARTAMENTO DE
CINEMA
E ARTES
DOS MEDIA



HEI-Lab
Digital Innovation Hub for Lisbon Lab



CICANT

WELL

Marta Guerra Belo is a graphic designer and PhD researcher based in Lisbon. Graduated in Education, learnt illustration at Ar.Co, and investigated the concept of the Designer as Player in her master's project in Graphic Design at School of Arts and Design Caldas da Rainha. She works mainly in commissioned and self-initiated projects in book and editorial design, identity design, visual arts and design research. She enjoys doing speculative visual research and learning through exploratory projects that allow her to experiment the practice of design with other fields of knowledge, especially art, science and pedagogy. She is currently developing a PhD research in design about alternative design pedagogies and play at Lisbon University, funded by the Foundation for Science and Technology. She is a lecturer in the Design Department of Lusófona University.

ORCID: 0000-0001-7668-3176

SCHOOL AS PLAYGROUND:

**DISCUSSING A PLAY STRUCTURE
FOR HIGHER DESIGN EDUCATION**

MARTA GUERRA BELO

Lusófona University

Abstract

In this paper we intend to discuss the main elements of play – rules, order, freedom, pleasure, competition, representation, separation and uncertainty – as key elements of a new alternative learning structure in higher design education centered on ludic thinking. From the assumption that play is a free movement within a more rigid structure and that playful thinking is intrinsic to us, we draw on *Aldo van Eyck and the City as Playground* text by Merijn Oudenampsen (2011) and make an analogy between school and playground to discuss play process as learning process and study alternative pedagogies to traditional teaching which seek to foster self-learning through the work *Homo ludens*. School is observed as a playground where learning takes place through the transgression that results from the strong engagement with the context, the free exploration of space and matter and the ongoing dialogic interactions of the participants. This work is developed by cross-referencing data from different sociologists, educators, designers, and game theorists in connection with the data collected from an open talk with the author and four guests: Luís Alegre da Silva (designer, researcher, and lecturer in the field of communication design), Miguel Vieira Baptista (designer and lecturer in the field of product design), Filipe Luz (researcher and lecturer in the field of Multimedia and Videogames) and Ana Jotta (Visual artist) – that took place in the 1st Games and Social Impact Media Research Lab Conference (Glow2021) hosted by Lusófona University as a joint initiative between the CICANT and HEI-Lab research centers.

Keywords: *play; structure; design; school; learning.*

Introduction

As a starting point for the discussion that follows, we recognize the urgency of discussing new teaching-learning structures and processes in higher design education more efficient, innovative and integrated in the current contexts (Verjwei, 2014; Margolin, 2014; Martens, 2015; Davis, 2017; Friedman, 2019; Lindgren, 2020). Despite the increasing number of design schools, their courses and programmes don't reveal major structural differences (Friedman, 2019). Most have a traditional teaching structure, both in methods and management of spaces, in which teachers teach and students learn (Robinson, 2010). In recent years we have seen some changes influenced by the constructivist models (Dewey, 1934; Piaget, 1950/2001; Vygostsky, 1978) of learning, which place students as active participants in these processes – through the linking of theory and practice, in occasional activities in the process of the transmission of knowledge or through the poor connection with industry (Friedman, 2012). However, these changes prove to be insufficient in face of the new social and technological realities, the different learning contexts, and the demands of the role of the contemporary designer self-aware and critically reflective about social dynamics and problems (Giampietro, 2011), and opens a path of reflection on the design discipline itself and its teaching-learning processes.

The word school comes from the Greek *Scholé* which represented the 'place of leisure'. Leisure was not synonymous with rest or idleness, it meant time for the development of reflection and the ability to think. In its true essence, school is the space where we should have the time and reflection that

lead to knowledge. That space can be designed anywhere and with any group, where everyone's goal is to share and build something new. As Illich (1970) states, teaching contributes to certain types of learning under certain circumstances, but most knowledge is acquired casually outside school, and even that which is intentionally acquired is not the result of programmed instruction. Therefore, the school – as we know it – in order to become a school – a space for reflection, criticism, responsibility and innovation – and to work on its main purpose: to offer the conditions for each individual to develop his or her uniqueness, intellect and integration, that is, to be formed as an artist – a person efficient in the various modes of expression (Read, 1963/2001), will have to become a flexible school and (im)permeable to its context: an open integrated school.

Playful thinking is intrinsic to human beings and it is from the phenomenon of play that societies build culture (Huizinga, 1938/2003). In its larger sphere, play is a complex system that produces and transforms knowledge, it is a framework for learning and experiences (that can be) highly meaningful. As Salen & Zimmerman (2003) argue, play is a free movement within a more rigid structure. We experience play when we 'see, touch, hear, smell, and taste the game; to move the body during play, to feel emotions about the unfolding outcome, to communicate with other players, to alter normal patterns of thinking' (Salen & Zimmerman, 2003: 1). All this free movement happens in a more rigid structure defined by its rules that the players inhabit, explore and manipulate. For example, let us observe the classic game *Pong*. This game only contains a pair of paddles that move two blunt white lines on either side of the screen, a ball bounces between these and if it

misses the ball the opponent scores a point, the first to score 15 points wins. Despite its almost primitive simplicity *Pong* creates meaningful play. But why? The authors answer: It is simple to play; Every game is unique with endless possibilities, it is easy to learn, but difficult to master; It is an elegant representation (of Table Tennis); It is social, it takes two to play *Pong*; It is fun, players derive pleasure from the game for many different reasons, from the pleasure of competition and winning to the satisfyingly tactile manipulation of the knob; and it is cool, as a cultural artifact, it evokes nostalgia. Its cultural, social, representational and interactive aspects stimulate our playful thinking and the experience of playing, we explore its rules and possibilities in a competitive and fun movement. This play structure, limited in time and space (Huizinga, 1938/2003; Caillois, 1961/2001), is designed to support actions and outcomes in a meaningful way through players' choice. This interaction is a representation that players take very seriously, fully immersed in an experience that generates competition and pleasure (Huizinga, 1938/2003; Caillois, 1961/2001) from cooperation (Rapoport, 1960).

If play (which occurs in game) is a flexible learning space, in which players emerge in a more rigid structure to explore possibilities through free movements, with full seriousness and pleasure, we question school as a play structure and try to understand how we can design a school that offers great play experiences (learning) to the learners (players: students and teachers), feeding self-learning through engagement, critical reflection, imagination and intuition that this kind of powerful *flow* (Csikszentmihalyi, 1990) activity requires. A flexible school in space and time that allows each one to learn in an integrated way and focused on group balance: the community.

With this analysis in connection with the talk presented at the conference we try to understand the potential of playful thinking and the phenomenon of play as a cultural element on learning process in higher design education, as well in all current school contexts, and also reflect on its unique role and powerfulness in the field of education.

School as Playground

In his text *Aldo van Eyck and the City as Playground* (2011), Oudenampsen notes the importance of the freedom given by the Structuralist spaces designed by the Dutch architect Aldo van Eyck in the Netherlands (1947–1978), as opposed to the non-human characteristic of the functionalist architecture dominant after the Second World War. Van Eyck wanted to create a radical break with the past and propose a new conception of space that would stimulate involvement and imagination of its users (the community). His minimal and simple playgrounds were perfectly integrated into the urban network and designed by the social dynamics between users and their imagination. The playgrounds were modular, combined depending on the place where they were inserted and created an interaction with the context, contrary to the dominant modernist idea of *tabula rasa* (projects based on abstract data and statistics). Their openness invited exploration and self-discovery. He was concerned not only with the meaning of space and time but more than that with place and occasion: 'how can people make space their own and create a subjective sense of place?' (Oudenampsen, 2011: 125). As Oudenampsen mentions, his playgrounds contained a sweet and uncontroversial engagement and at the same time served as a condensation point of cultural critique. His

work was in direct connection with the work of Situationism, founded by Constant Nieuwenhuys (1920–2005) and Asger Jorn (1914–1973), who believed in *Homo Ludens* replacing *Homo Faber* and in the notion of play as a subversive strategy of revolt against modern capitalism.

If play is a free movement within a more rigid structure and that ludic thinking is intrinsic to us and is responsible for the production of culture, we start from the van Eick's playgrounds simplicity, criticism, and full integration into the urban network to observe school as a playground and discuss the design of a playful structure that offers meaningful learning. In the following sections we explore the main elements of play by drawing on different play theorists and game designers and cross-referencing this data with the data discussed in the open talk with the author and Luís Alegre da Silva, Miguel Vieira Baptista, Ana Jotta e Filipe Luz.

Rules of Play: Rigidity vs Freedom

The artist Ana Jotta (Belo, 2021) started our conversation questioning the freedom within the playground and in the word play itself. According to the artist, school should be a rigid space that distances itself from the 'false freedom' experienced outside school. In an activity that must be well-organised and rigorous the word 'play' doesn't sound right because it refers to a non-serious and trivial activity. Although she uses the word 'play' to describe the pleasure she feels in what she does – 'I keep always on playing, I mean having a lot of pleasure' – she considers that the word 'play' does not fit in with her pragmatic vision and rigorous way of working. In reply, Luís Alegre da Silva (Belo, 2021) the says that

playing is not a dramatic act, it is an act of rules and full of instructions that are then played. In fact, this discussion of what play is or how we interpret the word play itself is a very important issue in exploring a school as a playground and in how people might experience that school. As Read (1963/2001) argues play is often wrongly considered not serious. Truly embraced the playful method should not suggest mere lack of coherence and direction in teaching: we don't want to design a school that plays at teaching, but a school that teaches by play. And play is an extremely serious activity.

What Ana Jotta (Belo, 2021) the describes in her activity – serious, rigorous, focused and, at the same time, very pleasurable – is in reality the way play is defined in its multiple and unique forms. The pleasure that emerges from this activity is exactly due to the freedom made possible by the space unlocked by the rules created before we enter the game. As already mentioned, play is a free movement within a more rigid structure.

Generally, play is thought to be opposed to seriousness. However, when we observe play more closely this contrast is not rigid. When observed with activity, that is to say leisure or entertainment, play becomes non-serious, but when observed within that same activity play is serious (Huizinga, 2003). Players take exploring and competing very seriously, until they reach the goal they are totally absorbed, focused and engaged. Thus seriousness, like freedom or pleasure, is an intrinsic characteristic of play. There is a fusion between serious and non-serious. 'We can say that it is a free activity, consciously exterior to normal life, a non-serious aspect

of life, but which at the same time intensely and completely absorbs the player' (Huizinga, 1938/2003, p. 29).

The playground is a space of representation where reality is mixed with make-believe and seriousness is part of this representation. The player enters the game to have fun, but from the moment he starts playing the role of player everything he does is serious, in such a way that breaking a rule forces him to leave the game (Salen & Zimmerman, 2006). By stepping away from reality the player feels free to play the role that the game offers, this representation emerges from the relationship between an underlying rigid rule structure and the free meaningful play that occurs as players inhabit the system (Salen & Zimmerman, 2003). The rules and the goal dictate the seriousness of the game but do not exclude any possibility to the player, just as they do not exclude the freedom of playful thinking. To think and move freely with seriousness becomes productive. No movement is done by chance or just for fun. All movements in play are productive of anything that becomes serious.

Finally, Koven (2020) reminds us that the infinitude of a playground – the freedom within the rules, play emerges from the movements through rules, opposing them in a playful way – is achieved through imagination. There is a structure defined by the rules of space, objects and people, but its space of possibilities is directed by imagination. In play we create imaginary situations to explore the space of possibilities. Creating an imaginary situation, or rather, entering into a playground, is to create a means to develop our abstract thinking and to learn to look at things or situations from different and new perspectives, more information can be

collected and, consequently, more meanings (Leslie, 1987). Imagination is what makes our sensory experience meaningful, allowing us to interpret and make sense of it, either from a conventional perspective or from a fresh, original and individual perspective (Thomas, 2006). Imagining is not the same as creating. Creativity does not generate ideas, it is only a tool to develop them, it is an interpretation and not an invention. When we're creative we are looking for answers to specific problems and we hardly have the ability to think of something new, we are limited to the problem, but when we use our imagination that problem does not exist (Manu, 2006). Therefore, it is imagination that allows us to create images of possibility and build experimental platforms where we can observe the world with other eyes, see what is not obvious and achieve significant advances.

The school rules as we know them do not provide this freedom, this engagement with the context of teaching and learning. Like Filipe Luz (Belo, 2021) the underlines freedom is one of the challenges to be worked on by the school, for example the freedom of time and space, to be able to learn when one is willing to learn and to learn things in the contexts that are directly linked to learning. School should provide meaningful experiences that lead to learning. To be meaningful these experiences must take place in real or simulated contexts but never in artificial ones. For this it is necessary to design spaces and rules that foster this productive freedom, imagination. We need to discuss imagination more than creativity. For Miguel Vieira Baptista (Belo, 2021) the balance between rules, freedom and the goals we want to achieve is what makes significant learning in the playground (school) possible.

Magic Circle

António Cruz Rodriguez (Belo, 2021) question whether school should be connected to reality or isolated as in play. Huizinga (1938/2003) and Callois (1961/2001) tell us that play is an occupation carefully isolated from the rest of life. Play implies accepting to enter a world separated from reality with its own structure and only those who accept its rules are part of it. But let's consider Zimmerman and Salen's (2003) answer to the question of whether games are closed or open systems: it will depend on whether we speak of games framed as rules – closed systems, as play – closed and open systems, or as culture – open systems. In reality our playground contains all three types of system and so play is simultaneously closed and open to reality. As Sniderman (1999) states no game is played or practised in a vacuum, all play activities exist in a real-world context, so playing is to immerse yourself in that context. Ana Jotta (Belo, 2021) mentions that we are all in reality, even when we are playing, however we can experience that reality in different ways. The same thing happens in play, is permeable and impermeable at the same time, and it is played by people, even if they are in a *flow* state or in a *make-believe* moment. Consalvo (2009) shows us that the act of playing depends on the act of the player and, like the play space, it is embedded in a larger context, so apparently the concept of the magic circle seems static and extremely formal. Structures may be needed to start playing, but we cannot stop at structures as a way of understanding the experience of playing, the magic circle is not totally closed to the ordinary rules of life, the rules within play compete with other rules and relate to multiple different contexts, cultures, groups, situations and spaces. The activities and structures of life are arranged

by a series of *frames* and within which there are interactions with additional meanings and keys. When we play, we operate in three distinct frames: the frame of common-sense knowledge; the frame of the rules of the game which is grounded in the structure of play; and the frame of fantasy world knowledge. As the real world will always intrude into the structure of play, we can rapidly alternate between the various frames by *up-keying* – from real life to representation, and *down-keying* – from representation to real life (Fine, 1983).

School, like the playground, is connected to its context in which it is embedded, there is always this dynamic tension. How we manage this tension is the key to maintaining meaningful play. We can influence the context from the core of the play, just as we can change the play from the core of the context, it is up to the players (teachers and students) to do this management and enhance the learning experience creating change across the *frames*. Koven (2020) tells us that we can create change outside of the game, we have to learn how to play and change games, and to do that we have to have more imagination. We have to imagine not just things to be different that they are, but also imagine how they could be different: 'through play and imagination we can lead fuller and more magical lives' (Koven, 2020: 12).

Flow

What makes us want to play? What makes us go to school? Possibly we will not have a final answer to these questions, but we know that playing defies and gives us pleasure, and school, for the most part, is an obligation and rarely gives us that pleasure. Superficially we might say that play is fun,

and school is (boring) work, but we already notice that both the task of playing and the task of learning are complementary. This thought reveals a problem. If meaningful learning depends on our ludic thinking, on the desire to play and to produce meaningful knowledge, school cannot be presented as a boring or stressful space.

We all love to play. As Filipe Luz states (Belo, 2021) all humans love to learn, learning is one of the best experiences we can feel. It's part of our nature as curious and thinking beings. When we are children this learning happens naturally without impositions, it is a free activity, our school is the playground. The reality starts to change when we enter school and when society and the family itself starts to create a lot of pressure on how and what we should learn. Let's imagine school as a poorly designed game *versus* a well-designed game. A well-designed game – in the balance between rules and freedom, competition and cooperation, seriousness and pleasure, order and disorder, objectivity and uncertainty –, the one that produces meaningful play, holds the players in such a way that the moment of play is a unique moment of pure engagement. Unlike in real life, the player does not mind adopting rules that require him to have to employ worse paths to reach a goal. Suits (1978) calls it *lusory attitude*. The more pleasure these movements provide the more exciting the game becomes, and the player feels engaged with the game in exploring the space and reaching the goal. Csikszentmihalyi (1990) suggests the term *autoleptic* which allows us to understand this *lusory attitude* of the player to engage in an activity for the pleasure offered by the difficulties created by the rules. *Autoleptic* refers to a self-contained activity that is undertaken solely for the sake of doing

it and not with the expectation of a reward. The experience of participating in the activity is what gives it meaning. Keeping players in this state of relations requires simultaneously that the player is seduced to enter the game and seduced to continue playing. Csikszentmihalyi calls this state of total involvement and participation *flow*: the emotional, psychological and intellectual state of pleasurable involvement in which a person feels totally fulfilled and satisfied. The author states that having pleasure in an experience is not the same as enjoying that experience and that to achieve that *flow* is required: confront us with tasks we have a chance to completing; be able to concentrate on what we are doing; have clear goals and encourage immediate feedback; acting with a deep but effortless involvement that removes from awareness the worries and frustrations of everyday life; enjoy experiences that allow us to exercise a sense of control over our actions; concern for the self disappears, yet paradoxically the sense of self emerges stronger after the *flow* experience is over; and feel that the sense of the duration of time is altered – hours pass by in minutes, and minutes can stretch out to seem like hours. By becoming aware of the importance of these components we can achieve full satisfaction in an activity and in the growth of our knowledge about ourselves and the world.

The magic circle of play is the ground within which this action takes place and offers participants a sense of security, another element that is crucial to keep us in the game. Thus, play changes and therefore brings uncertainty and risk, but to get into play players have to feel familiar with the rules, the space and the others. For this to happen it is crucial that players work in community, even when playing alone. Working in

community happens when players together have the ability to decide about changing the game and for this to happen the game rules and the space must be designed to be changed if the players so decide, and that so the game remains good enough to be played (Koven, 2020).

As Luís Alegre da Silva (Belo, 2021) states, the school is designed as a totally closed and rigid, rules-dominated game that the play ceases to become a fulfillment of prescriptions activity. We can add that these rules are often imposed outside each school community without the possibility to change them. The learning activity becomes difficult and fragile due to the rules' constraints and therefore uninteresting or unmotivating. To achieve its true purpose, the challenge for the school is to become a space of *flow*. To make this possible, it's essential that all those who are part of it – students, teachers, directors and staff – become a community: the community of the *playground*. This community may create conditions for learning to take place without impositions other than the rules of the game itself, which is being played in moments of total engagement. Miguel Vieira Baptista (Belo, 2021) underlines that in a group, in a relationship between people who learn, there must be a feeling of empathy, in the sense of trust, sympathy or connection with the other(s). For Ana Jotta we can describe it as dialectic, the right moment to build a dialogue.

Competition, Cooperation and Uncertainty

Filipe Luz brought into the circle the question *“if in school the aim is to learn, what is the aim of playing? Is the real experience of playing to reach the end and win the game?”* (Belo, 2021)

Although it has learning as its substance, much by the way it presents itself and the pressure from the outside community, school as we know it is more concerned with goals and competition. There is always a great concern with results which stimulates in the students and teachers a greater concern with the end than with the process of any activity. When we mention play, we are exactly discussing the process.

Playing a game means making choices within a game system designed to support actions and outcomes in a meaningful way, each action results in a change that affects the overall system (Salen & Zimmerman, 2003). As Filipe Luz argues (Belo, 2021) there are games focused more on competition and winning than with the process. For example, playing a professional football game, the team is there to win regardless of the quality of the game that is played or what players can learn. Possibly the quality of the game will affect the outcome, but above all the concern is to win. But we talk here not about formal games, but about playing and the pleasure of playing. In part, this pleasure is offered by competition (Huizinga, 2003) that arises from the interaction between the players or objects and the game context. The more it is designed to stimulate this interaction, the richer this experience becomes. The choices and movements of each player do not direct the action but, more than that, are stimuli that precipitate the action. When a player makes a decision within the game, the action that results from that micro choice has an outcome. In that action there is learning for the next decision making. This choice-provoking interaction, this meaningful and persistent exchange of stimuli, strategies and information, happens because the player is pursuing a goal and trying to outdo himself and others to achieve it. The macro level of choice represents how

these micro choices come together as a chain to form the grand trajectory of experience (Salen and Zimmerman, 2003): this interaction creates tension, and the game becomes an artificial representation of conflict. This conflict is not the same conflict as in a fight or other real-life challenges. In the game opponents are not an obstacle, nor do we intend for them to be eliminated, opponents are essential – strong opponent is more valuable than a weak opponent (Rapoport, 1960). It is through their stimuli that the ‘winning’ player thinks and makes decisions, in other words, learns. We enter at this point into another defining element in meaningful play, cooperation. Games are inherently cooperative: game conflict is productive conflict (Sniderman, 1999). Although rivals, players cooperate with each other, exchanging valid experiences and knowledge so that the goal is achieved successfully. They cooperate by respecting and bounding the rules of the game and they cooperate by giving their best. The relevance of winning becomes less important than the relevance of playing.

Let us observe play as a dialogue. To play is to communicate (Bateson, 1955/2006). The player communicates with his opponent, with an object or with the environment. He establishes a dialogue with something that challenges him. Interactivity is a conversation, a cyclical process in which two actors alternately listen, think and speak. The quality of the interaction depends on the quality of each of the sub-tasks – listening, thinking and talking (Crawford, 2000). Play’s action becomes a productive debate, where the aim is not to reach a definitive outcome (closed outcome), but to discuss information to open up new paths (open outcome). In this sense, Carse (1986) reveals that in real life actions are part of two types of game: the finite game, in which the purpose is to win, and the

infinite game, in which the purpose is to continue to play and invite new players to participate. There are rules, but so that the play never ends they are always being modified, it is the rules themselves that dictate that the play has no end. Unlike finite games, in infinite games playing is itself the explicit goal. The important thing is not to direct the players in a classical way, not to tell them what to do, but to create playful situations and let them respond. There are no time or space limits, and the players are constantly changing. The rules change for the single purpose of ensuring that the game doesn’t end and that everyone stays playing. Being able to change the game helps to create that sense of glorious play together. It would be the same to say that if something isn’t working, you can try something different (Koven, 2020). Finite players stand their roles in a serious way, but infinite players do so in a playful way: they involve others at the level of choice, even though they don’t have an imposed outcome on that relationship beyond the decision to continue it. To be playful is not to act as if there were no consequences, but to be free and leave the relationship open to surprise (uncertainty). Total seriousness closes itself to consequence, we’re afraid of the unpredictable outcome of the open-ended possibility, but by being playful we admit the open-ended possibilities (Carse, 1986). Any game has to have an open-endedness, its outcome has to be unpredictable, otherwise the reason for playing ceases to exist (Huizinga, 1938/2003). Luís Alegre da Silva (Belo, 2021) states that playing a game is pleasurable exactly because you don’t control it, because you don’t know the outcome, it makes you addicted to the game, just like the true learning experience: when it challenges us, when we like it, we always want to know more. According to Huizinga (1938/2003) who states that the game happens in its multiple forms through

art, Ana Jotta (Belo, 2021) adds that the artist also plays, he never knows how his work will end, there is always risk and excitement, the open result is like a *suspended time*, we are not obliged to arrive at a certain place. This playing is the act of learning and creating a new path.

Conclusions

In this article the main elements of play have been explored to observe school as a free space of sharing, where learning happens through dialogue, critical reflection, intuition and imagination. The player (student or teacher) feeds his knowledge through his moves and choices and shares these experiences freely with the space and time he needs to continue playing. Through this analogy, we realise that the playground – as space and as thought – opens up a significant space of possibilities in learning and in the individual's relationship with others and with the context in which he or she is inserted. It allows learning focused on the community, guided by intuition and imagination, fundamental elements for the construction of new paths, that is, for positive change. Naturally, this analysis did not offer definitive answers for the design of a new school of design, nor did we have that intention, but it allowed us to reflect on the similarities between the act of playing and the act of learning, to identify some fundamental characteristics so that meaningful learning can happen, and to imagine a school of design in which we can be happy. As Luís Alegre da Silva (Belo, 2021) mentioned, through the example of the work of the artist Francis Alÿs *When Faith Moves Mountains* (2002) – in which 500 volunteers with shovels gathered in a huge sand dune in the outskirts of Lima (Peru) and for one day they moved it several centimeters, the change in school

happens with the idea of connection (play community). Together we can change something and create a revolution that transforms little by little the school into something better. Much like the playground, learning happens by adapting and transforming spaces and others (the community), but in this experience each one plays in their own way.

This paper is another key element in the development of the doctoral research in which it is integrated, we analyse play and alternative pedagogies in higher design education focused on playful thinking and propose a school structured as a playground. We will continue this research, increasingly focused on the space of possibilities that play can offer not only to individual learning, but as we realized throughout this analysis, and very importantly, to collective learning and the construction of sense community and happiness.

Bibliography

- Bateson, G. (2006). A Theory of Play and Fantasy. In E. Zimmerman & K. Salen (Eds.), *The Game Design Reader: A Rules of Play Anthology* (pp. 314–324). Cambridge & London.
- Belo, G. M., Silva, A. L., Baptista, M. V., Jotta, A. & Luz, F. (2021). *School as Playground* [talk], GLOW 2021 – Games and Social Impact Media Research Lab Conference. Lisbon: University Lusófona.
- Bravo, A. Dutch Master – Karel Martens and the Power of Restraint, Medium (2015). Retrieved from <https://medium.com/@amberbravo/dutch-master-karel-martens-and-the-power-of-restraint-a272615b5099>

- Caillois, R. (2001). *Play, Man and Games*. Urbana, Chicago: University of Illinois Press.
- Carse, J. (1986). *Finite and Infinite Games: A Vision of Life as Play and Possibility*. New York: The Free Press.
- Consalvo, M. (2009). There is no Magic Circle. *Games and Culture*, 4(4), 408–417.
- Crawford, C. (2000). *Understanding Interactivity*. San Francisco: No Starch Press.
- Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York: Harper & Row.
- Davis, M. (2017). *Teaching Design – A Guide to Curriculum and Pedagogy for College Design Faculty and Teachers Who Use Design in Their Classrooms*. New York: Allworth Press.
- Dewey, J. (1934). *Art as Experience*. London: Penguin Books.
- Fine, G. A. (1983). *Shared Fantasy: Role-playing Games as Social Worlds*. Chicago: University of Chicago Press.
- Friedman, K. (2012). Models of Design: Envisioning a Future Design Education. *Visibile Language*, 46.1(2), 132–153.
- Friedman, K. (2019). Design Education Today – Challenges, Opportunities, Failures. In *Chatterjee Global Lecture*. Cincinnati, Ohio: College of Design, Architecture, Art and Planning, the University of Cincinnati.
- Giampietro, R. (2011). School Days. In A. Blauvelt (Ed.), *Graphic Design: Now in Production* (pp. 213–219). Walker Art Center. <https://doi.org/10.1056/nejm193508292130916>.
- Illich, I. (1970). *Deschooling Society*. New York: Harper & Row.
- Huizinga, J. (2003). *Homo Ludens*. Lisboa: Edições 70.
- Koven, B. De. (2020). *The Infinite Playground – A Player's Guide to Imagination*. (C. Pearce & E. Zimmerman, Eds.). London: The MIT Press.
- Leslie, A. (1987). Pretense and Representation: The Origins of Theory of Mind. *American Psychological Association, Inc.*, 94(2), 412–426.
- Lindgren, J. (2020). Graphic Design's Factory Settings. *Walker*. Retrieved from <https://walkerart.org/magazine/jacob-lindgren-graphic-designs-factory-settings?fbclid=IwAR2skrqeg-gGY05LBEj8TRWnpj4MAbyflb4jU4JBVaekhediTRQ39VZ2M-4Qw>.
- Manu, A. (2006). *The Imagination Challenge: Strategic Foresight and Innovation in the Global Economy*. Berkeley: New Riders.
- Margolin, V. (2014). Learning from History. In G. Camuffo, M. D. Mura, & Alvisè Mattozzi (Eds.), *About Learning and Design*. Bolzano.
- Oudenampsen, M. (2011). Aldo van Eyck and the City as Play. In *Generous Structures – Casco Issues XII* (pp. 112–133).

Piaget, J. (2001). *The Psychology of Intelligence*. London, New York: Routledge.

Rapoport, A. (1960). *Fights, Games and Debates*. Ann Arbor: The University of Michigan Press.

Read, H. (2001). *A Educação pela Arte*. São Paulo: Martins Fontes.

Robinson, K. (2010). Interview: Sir Ken Robin, The Creativity Challenge. Em B. Mau & A.

Fox (Eds.) *The Third Teacher – 79 Ways You Can Use Design to Transform Teaching and Learning* (pp. 151–154). New York: Abrams.

Salen, K., & Zimmerman, E. (2003). *Rules of Play – Game Design Fundamentals*. London: The MIT Press Cambridge.

Salen, K., & Zimmerman, E. (2006). *The game design reader: A rules of play*. Cambridge & London: The MIT Press.

Sniderman, S. (1999). Unwritten Rules. *The Life of Games*, 1, 2–7.

Suits, B. (1978). *The Grasshopper: Games, Life and Utopia*. Buffalo & London: University of Toronto Press.

Thomas, N. (2006). Imagination, Mental Imagery, Consciousness and Cognition. In *Bradshaw Seminar*. California: The Claremont Colleges Claremont.

Vygotsky, L. (1978). *Mind in Society – The Development of Higher Psychological Processes*. London: Harvard University Press.