

Chapter 7

It's Your Turn! Supporting Social Change Through Networked Learning and Game Playing



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7.1 Introduction

Education is never neutral. One of the main functions of education has been to facilitate young people's integration into an existing system or society. However, in the foreword to *The Pedagogy of the Oppressed*, Richard Shaull reminds us that education can become “the practice of freedom” or “the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world” (Freire, 1972, p. 14). This chapter presents Fast Food da Política (FFDP) as a case study of a learning network that embraces the practice of freedom as its core sentiment. FFDP is a not-for-profit Brazilian organization that works to empower young and old, men and women to take hold of their own futures.

FFDP uses games and open resources to educate Brazilians on a complex topic—the mechanisms and functioning of their political structures. The organization draws on the concept of “fast food” to convey that political engagement can be something fun and easy to go through. We argue that this learning network strongly enacts the networked learning values of participation, co-creation and knowledge building (Hodgson & McConnell, 2019). The very essence of the type of knowledge shared

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within this network is also deeply connected to Freire's critical pedagogy (Freire, 1972), as their goal is to empower children, youth and adults to learn about the functioning of Brazilian politics and, in so doing, to encourage social action based on people's understanding of their civil rights. Overall, the network strives to educate people to practice freedom and to figure out the importance of their participation and contribution to transform their own world (Freire, 1972).

FFDP focuses on material non-digital games especially designed to spark interest about the mechanisms of political structures. This chapter brings selected examples of games to discuss how specific qualities and properties of these games contribute to create an educational environment that transforms learning into an exciting challenge (Bayeck, 2020; Donovan, 2017; Oblinger, 2006). Our analysis focuses on the physicality of games, and how certain qualities contribute to tool mediated experiences that help situate people's understanding of the world, through their interactions with things that are extending beyond brains and bodies (Clark, 2010; Kirsch, 2013). In thinking about the physicality of games, we see connections to Sørensen's (2009) perspective on the materiality of learning, or in practices where the social and material are intrinsically connected to broader ecologies of learning. As Fenwick (2015) reminds us "material things are performative. They act, together with other types of things and forces, to exclude, invite, and regulate particular forms of participation" (p. 85). We are interested on the invitations for participation that FFDP games afford. But the game elements within this network are only part of a much broader picture.

Brazil is a country marked by regional and socio-economic differences. Like in many developing nations, social, political and economic challenges abound, perhaps as a result of years of scarce support for the development of robust public policies and processes, and a sustained lack of investments on initiatives to expand and democratize people's access to knowledge and to education about these processes. Indeed, Brazilians could greatly benefit from open education initiatives that encourage critical and creative engagement with civic knowledge and citizenship, in ways that foster knowledge building through networked learning (Freire, 1972; Jimena et al., 2019). One of the main goals of the open movement has been to improve education by facilitating access to educational resources and/or practices and, in so doing, to achieve greater effectiveness and equality in education (Cronin, 2017; Cronin & MacLaren, 2018). Open Educational Practices (OEP) usually refer to practices that include the creation and (re)use of Open Educational Resources (OER) but may also refer to open pedagogies and teaching practices that are freely shared (Cronin & MacLaren, 2018). Such practices often relate to respect and empowerment of learners, and place learners as co-producers of their own learning trajectories (Ehlers, 2011). As we will discuss, FFDP games are openly shared as OERs.

We analyse FFDP as a case study of a productive learning network (Carvalho & Goodyear, 2020) using a particular set of analytical lenses—the *Activity-Centred Analysis and Design* (ACAD) framework (Goodyear et al., 2021; Goodyear & Carvalho, 2014) and the ACAD wireframe (Carvalho & Yeoman, 2019; Yeoman, 2015, 2018). The ACAD framework and wireframe allow us to identify key

structural elements (such as tools, tasks and social structures) in a learning network, and abstract how these elements may contribute to influence emergent activity. Through these lenses, we explore the ways this network is operating and highlight the importance of alignment between multiple design elements, focusing on the following: (1) a strategic educational vision deeply grounded in action for social change, (2) a curriculum that emphasizes gaming elements, (3) the physicality of materials in learning, and (4) ways of connecting people through both digital and physical resources. At the micro level we will ask you to pause and consider how the quality of materials supports the development of educational innovation, whilst at the meso level we will invite you to reflect on how an organization run by a group of young women is becoming an established learning network for social action in Brazil. Overall, this case study illustrates coherence and consonance working in tandem, as the physical and online spaces come together to encourage, support and showcase a powerful strategic vision, enacted in both formal and informal educational settings. A networked learning spirit is embraced through workshop facilitation and community events where the FFDP methodology and vision are disseminated, and new ideas are gathered, before being curated and shared with network participants. Co-creation and participation are some of the principles at the core of this network. As a not-for-profit organization FFDP relies on crowdsourced funding to survive, and to provide free access to blueprints and manuals that explain the different ways each game can be played. These OERs are downloadable through their website and include cost-effective suggestions about how to adapt different elements to create games that are grounded in the socio-economic reality of Brazil. Their pool of OERs is always evolving as new ways of playing games are captured and repackaged for sharing with others in their ever-growing community of learners (Wenger et al., 2002). As with many others living and working in developing countries, their activities came to a standstill, after the COVID-19 outbreak. The network is now facing new challenges to continue with their mission, which includes adapting their material games to the digital realm, and to find new ways of disseminating their ideas.

In the next section we contextualize our approach to networked learning, briefly introducing the *Activity-Centred Analysis and Design* (ACAD) framework (Goodyear et al., 2021; Goodyear & Carvalho, 2014) and the ACAD wireframe (Carvalho & Yeoman, 2019; Yeoman, 2015, 2018). We then discuss issues associated with the use of games in education, before presenting FFDP as our case study of a learning network. We conclude our chapter with a brief account of the recent challenges FFDP is confronting and discuss the implications of our work for analysis and design of other productive learning networks.

7.2 Framing Designable Structures at Macro, Meso and Micro Levels

According to Dohn (2018), the notion of *networks* can be used to express different meanings. It sometimes refers to geographically distributed people, who come together via interconnected technologies. Or it can be used to describe communication that is mediated by the use of the Internet. Networks may allude to machines and agents, or instead, be about life activities in spaces that mix the physical and virtual. Networks can also describe people's dependence on others for their daily activities, such as, relying on a personal network of family or friends. There are many perspectives one can take, and they all foreground connections. Recently, the networked learning community came together to invite participation and contribution to a redefinition of networked learning, searching for a shared vision that enacts its values and practices:

Networked learning involves processes of collaborative, co-operative and collective inquiry, knowledge-creation and knowledgeable action, underpinned by trusting relationships, motivated by a sense of shared challenge and enabled by convivial technologies. Networked learning promotes connections: between people, between sites of learning and action, between ideas, resources and solutions, across time, space and media. (Networked Learning Editorial Collective, 2020, p. 8)

Carvalho and Goodyear (2020) suggest that *networked learning* is process-oriented and connected to a philosophical and pedagogical perspective on learning, whilst *learning networks* describes inquiry in educational research and is often object-oriented. The *Activity-Centred Analysis and Design* (ACAD) framework (Goodyear et al., 2021; Goodyear & Carvalho, 2014) offers analytical lenses to explore how the structural elements in a learning network come to influence emergent activity. ACAD identifies three designable components of learning networks and a fourth that is characterized as emergent. Designable components include those in (1) set design—or the digital and physical structures, tools and resources made available at learnertime; (2) social design—referring to social arrangements of learners, roles and divisions of labour, and (3) epistemic design—or the proposed tasks, including knowledge and ways of knowing. The last component in the ACAD framework is emergent and characterized as the co-creation and co-configuration activity, which accounts for learners' agency to re-configure and co-create what has been proposed at learnertime.

In *The Architecture of Productive Learning Networks*, Carvalho & Goodyear (2014) brought together a rich collection of learning networks analysed through the lenses of the ACAD framework. Each carefully selected case study describes a particular network, and their engagement in various forms of social action. Of particular relevance to this chapter is *Diseña el Cambio*, a learning network designed to promote social action in a developing country in Latin America, specifically in Mexico (Nichols & Ashe, 2014).

Drawing on the ACAD framework (Goodyear & Carvalho, 2014), alongside Goodyear's (1999) earlier notions of pedagogical frameworks and the concept of

Table 7.1 The ACAD wireframe

Philosophy	SET DESIGN Learning is...	EPISTEMIC DESIGN Learning is...	SOCIAL DESIGN Learning is...
MACRO The global Level I patterns	Buildings and technology	Stakeholder intensions	Social systems
MESO The local Level II patterns	Allocation/use of space	Curriculum	Community
MICRO The detail Level III patterns	Artefacts, tools and texts	Selection, sequence and pace	Roles and divisions of labour

pattern languages (Alexander et al., 1977), the ACAD wireframe (Carvalho & Yeoman, 2019; Yeoman, 2015, 2018) offers a grid to sketch representations of ACAD's three dimensions of design (set, epistemic, and social), at different levels of granularity: micro, meso and macro levels (Table 7.1).

The ACAD wireframe has been used to address some of the practical challenges in educational design in multiple studies. Some of these challenges can be associated with designers reaching a shared epistemology of learning before starting work on a new design (Yeoman & Carvalho, 2019), others relate to analysis that traces the coherence across dimensions of design (left to right) and scale levels (top to bottom) (see Carvalho & Yeoman, 2019; Yeoman, 2015, 2018). In other words, the ACAD wireframe allows us to identify whether aspects of a learning network seem to reflect close alignment (or show a disconnect) between dimensions of design (social, set, and epistemic) at different scales (micro, meso and macro levels).

In practice, when using the ACAD wireframe, a researcher is exploring connections between design elements, for example at the micro and meso levels. Researchers may look at the mechanics of a particular game; or the structure of a learning task in a lesson—both examples of *micro epistemic design*. The strategic vision, or the stated values of a network or school, can be identified when they refer to “representations of all voices” or valuing “learning together and making decisions together”—both examples of *meso social design*). Crudely speaking, one might suspect that a misalignment exists, when values grounded on collaboration, inclusivity and working together (*meso social design*), are not consistently enacted in the classroom, for example through a preference for the lecturing teaching mode (*micro social design*), tasks that emphasize individual work only (*micro epistemic design*) and classroom arrangements that seat students in rows, rather than in groups (*micro set design*).

In this chapter, we use the ACAD wireframe to analyse the coherence of the designable components at the meso and micro levels of FFDP, the learning network that is our object of study. However, before looking closely at the structural elements

in FFDP, we discuss relevant research involving the use of games in education, as this is a crucial component of the epistemic design of this network.

7.3 Games in Education

Game studies is a cross-disciplinary field of research that focuses on understanding how games support people's engagement in learning. The field combines literature on *serious games*, *game-based learning*, *gamification* and *epistemic games* (Dicheva et al., 2015; Rooney & Whitton, 2016; Schaffer, 2006). *Serious games* describe games specifically devoted to teach certain knowledge, content, or curricula (e.g. Mathletics, Scratch, etc.). *Game-based learning* refers to the design of learning tasks that embody game characteristics or game principles (e.g. a classroom role play involving a political debate). *Gamification* relates to the use of game-like elements in non-game contexts, for example with the aim of increasing engagement and motivation (e.g. using badges or a point system and leader board in a classroom). *Epistemic games* are often digital games, and usually associated with the notion of *epistemic frames*, which foreground a model of learning connected to immersive technologies, and include particular practices and ways of knowing (Schaffer, 2006).

Games and learning may share some important core principles. Even if games might not necessarily be designed with educational purposes in mind, many games are seen as immersive experiential learning environments (Oblinger, 2006). A core characteristic of various games is playfulness, a quality associated with positive social interactions, building up of emotional resilience, imagination, problem-solving skills, and stress reduction (Lieberman, 1977; Nørgaard et al., 2017). Like learning, games are usually social and experiential activities and often compel players to tap into their previous experiences to strategize an action, or to develop new understandings (Oblinger, 2006; Moseley & Whitton, 2014). Being successful in a game play may depend on considering different alternatives or on negotiating ways of solving a particular problem.

Games have been used in formal education, for example to teach concepts in health, biology, mathematical learning, computational thinking, language, geography and in many other disciplinary areas (Bayeck, 2020; Chiarello & Castellano, 2016; Muell et al., 2020; Sardone & Devlin-Scherer, 2016). In educational contexts, games have been part of classroom activity within schools for many years (Farber, 2017), and in recent times the use of game-like approaches in higher education has increased. Nørgaard et al. (2017) argue that educational games and gamification techniques support student's engagement, but often with a focus on outcomes, competition, and extrinsic rewards. They suggest that through a pedagogy of playful learning learners may be taken beyond extrinsic motivation towards recognizing "the importance of openness, curiosity, risk-taking, and failure in learning" (Nørgaard et al., 2017, p. 274). As such, games can play a strong role in learning activity, whilst inviting people's engagement, participation, and interactions with and around a theme, taking players much beyond acquisition of knowledge, or specific

behavioural changes, towards experimenting with practices and social interactions, whilst developing complex systemic understandings of a game environment (Bayeck, 2020; Gee & Hayes, 2012).

Increased use of digital technologies and the Internet, video, computer and mobile applications, led to digital games popularity, and these are now part of most people's lives in one form or another. According to Whitton (2014) the use of digital games often sparks active learning, motivation, meaningful play, placing games as learning tools. Research on digital games and learning might include diverse scenarios, for example, learning with entertainment games, learning with educational games, learning that is inspired by games, learning within games, learning about games, learning from games, learning through game creation, learning within a game community and others (Whitton, 2014). Squire and Jenkins (2004) highlight the importance of “fittingness” between games and the overall educational context, including questions surrounding how and why one plays a digital game, who one is and who they hope to become.

As game-players interact with others, either in massive multiplayer games and whilst simultaneously online, or when physically co-located with materials and strangers in a street-market event, or in small groups of known others—people playing games are often taking up a challenge of engaging in collaborative team activity, with the aim of achieving a shared game goal. In these situations, what we often observe is that players bring different but overlapping skills or knowledge, helping each other whilst sharing ideas, skills, and values. In so doing, they co-create knowledge, and have fun with like-minded others in a community of learners (Wenger et al., 2002). In this case study, we argue that regardless of the specifics of the game design, game play may help simplify complex issues, and allow players to explore learning and complex concepts in formal and informal settings (Bayeck, 2020). Game playing may be used to foster engagement in critical thinking, creative problem-solving, and teamwork, to encourage players to develop skills and knowledge that may lead to solutions of complex social problems (Nørgaard & Paasikesen, 2016).

7.4 FFDP Case Study

The case study reported in this chapter is part of a larger research project, which seeks to understand the structural composition of productive learning networks (Carvalho & Yeoman, [forthcoming](#)) through the lenses of the ACAD framework and wireframe. Our main aim is to understand how educational design and learning activity connect and form productive learning networks. As Carvalho and Goodyear (2020) explain, the term *learning network* is used here to describe a class of phenomena for inquiry in educational research, and the use of the prefix *productive*—does not imply an evaluative sense, or characterize the opposite of a network that is ineffective—instead, the intentional meaning of *productive* is to highlight a

network where shared activity is “creative, constructive and concerned with self-realization and identity formation” (Carvalho & Goodyear, 2020, p. 2).

The research design employs a multiple case study approach (Stake, 2006; Creswell, 2003) to support the framing, planning, and gathering of data that is meaningful to the understanding of our particular object of study, in this case, the composition of productive learning networks. Each case study allows the researchers to examine a real case in a real situation, and in so doing, to select a few features to examine in depth (Stake, 2006). Overall, when using case study design researchers place a boundary around a complex and integrated system—to closely examine aspects in the functioning of this system. FFDP was chosen as a case study because it appeared to enact productive qualities as described above, and so we wanted to understand how various design components, and their part-whole relationships, contributed to making this a productive learning network.

In sum, FFDP is part of a series of cases, which include networks in higher education, schools and informal networks, and which builds on our previous research (Goodyear & Carvalho, 2014; Yeoman, 2015). Through this larger project we are also working to further refine analytical tools, to help explore the complex situations in which learning takes place, at micro, meso and macro levels—and within formal and informal learning contexts.

7.4.1 Data Collection

For the analysis of FFDP as a learning network, we drew on multiple data sources. These included an interview with Julia Carvalho as the network founder (conducted via Zoom). The interview was audio recorded and transcribed for analysis. We also had access to online manuals describing the games and blueprints of the games (downloaded from the FFDP website <http://fastfooddapolitica.com.br>). We examined information published on the FFDP website, on their Instagram and Facebook accounts. In addition, we collected recorded interviews of Julia Carvalho produced by Brazilian TV channels (and freely available on YouTube, for example at <https://www.youtube.com/watch?v=CV2Esc0g8YE> or https://www.youtube.com/watch?v=plMV_cUtVDQ). And we sourced articles about FFDP published on Brazilian news outlets.

Our research process included “member checking”, a research practice that involves searching for informants’ contributions after data collection, through invitations for informants to check and comment on the researchers’ data or interpretations. As Iivari (2018) suggests, such participatory interpretive research techniques “positions informants as co-analysts and co-interpreters to make sense of both their organizational realities and researchers’ interpretations of those realities” (p. 111). Overall, the varied sources of information and the participatory member checking approach helped us build up a rich understanding of this learning network as the phenomenon under inquiry.

7.4.2 *Brazilian Political Structures*

In 2014, prompted by an assignment, a graphic design student set out to create a game that would teach ordinary people about the complex workings of political structures in Brazil. Like many others, Julia Carvalho was deeply concerned about growing political unrest that was producing an increasingly polarized society. In 2015, she embarked on a trip with the Hacker Bus, taking this as an opportunity to connect with others that were also developing games to help people learn about politics. Overwhelmed by the divisive and often violent nature of the verbal exchanges between members of two political groups, Julia and other hackers wondered if it was possible to encourage public debate in a productive but playful way. FFDP emerged as a project during their trip in the Hacker Bus, and its beginning coincided with the day of a major political protest in front of the National Congress, where many were asking for the presidential impeachment. Julia and her companions in the Hacker Bus questioned whether games and fast dynamics could help people review their positioning, certainties and learn the rules of political processes, or learn about what would be the consequence of a presidential impeachment. Together, during this trip, they conceptualized and designed a simple game, using a basketball structure, their game invited players to reflect on the structure of the Brazilian government (Fig. 7.1).

At the time, during public protests, government supporters tended to wear red, identifying themselves with the labour party, and those calling for presidential impeachment tended to dress in the yellow colour of the Brazilian flag. The two groups were often positioned at separate physical spaces, visually identifiable by the



Fig. 7.1 Basketball game: Three powers system

clothing colours of supporters. Even in this polarized scenario of public protests, Julia and the hackers quickly noticed those wearing red and yellow were surprisingly open to conversations. With the help of the games a friendlier scene emerged, where questions could be posed, and a strategic and democratic discussion could unfold. It also made evident that both “sides” did not know who would replace the President once the impeachment was completed, and so through game playing, people were invited to a deeper reflection about people’s contradictory views of the impeachment process. In Julia’s views, the use of the basketball game turned out to be really positive, supporting productive exchanges between the two polarized groups.

7.5 FFDP: Framing the Architecture of a Learning Network

In adopting a networked learning approach to explore FFDP design elements, we return to the ACAD wireframe, offering a sketch of the key design elements of this learning network (Table 7.2). Doing so highlights the coherence of the FFDP vision enacted through a political curriculum, their overarching social values, and the

Table 7.2 FFDP: Coherence at micro and meso levels

	SET	SOCIAL	EPISTEMIC
Macro	Brazil	A socially, politically, and economically divided country	An absence of education about politics and the mechanics of elections.
Meso	Public spaces Private spaces Facebook Instagram FFDP Website Open resources and platforms	A vision for social change that includes representations of “all voices”, people from different social classes, ages, ethnicities, work experiences etc.	A political curriculum: Brazilian government structures and the three powers’ system (legislative, executive and judiciary), government roles and responsibilities, and the make-up and backdrop of pre-election debates including issues of gender representation within politics. A gaming pedagogy. Open education.
Micro	Game sets Classrooms Street sidewalk Spaces of political Protests Online blueprints and manuals	Groups of teachers Groups of students People passing by at a street event	Game mechanics: e.g. Who’s Who?, jigsaw, basketball, hangman.

learning “spaces” created by the tools and resources which are used and shared in physical gatherings and online—on the FFDP website, Facebook and Instagram accounts—as the network organizes and repurposes individual elements over time and space.

The ACAD lenses reveal consonance between social, set and epistemic elements at both the micro and meso structural levels—and what we see is a strategic vision (meso level) that is cleverly supported by numerous resources, specific social arrangements and fun game tasks (micro level) to address the social, political and economic situation of a divided country (macro level). At both the micro and meso levels FFDP embraces openness in ways that respects and empowers learners. They support practices that encourage people to participate as co-producers, not only of their own learning trajectories, but of the community as whole, taking hold of their history, political rights and destiny.

7.5.1 *Micro Level*

From the beginning, and at the micro level, FFDP games posed questions and invited game-players to consider issues like: What is the presidential line of succession? What role is responsible for what? Which laws current exist and should not, which ones exist and need to be known, or which are not yet part of their civil rights? The FFDP games essentially incite debates that explain the mechanisms of the Brazilian political system, and this is one of their most relevant characteristics—games are designed to bring many different people together to play, discuss and learn (*micro social design*). Building on the ideas of the basketball set described above, other games were created, one of these explores a theme related to government roles and responsibilities (*micro epistemic design*) whilst using a jigsaw structure (*micro set design*) (Fig. 7.2). The rationale being that once all the pieces had been placed, participants would be invited to reflect on the government structure, and gain insights into the different types of responsibilities of certain government roles.

Through the materials (*micro set design*), FFDP games bring people together, old and young, rich and poor (*micro social design*). Games are colourful, well-crafted, and strive to incorporate the mechanics of popular games including basketball, hangman, and Guess Who. By relying on people's familiarity with the rules of these games (*micro epistemic design*), common ground is quickly established implicitly inviting participation as people approach a game in session. Qualities of the games such as colour, size, and familiarity (*micro set design*) invite people to come closer. And arranging sessions at public venues or markets helps in broadening participation (*micro social design*).

This coupling of social and material elements (Sørensen, 2009) works to make people feel welcomed and encourages them to have a go. The super-sized version of Guess Who is an excellent example. When people are casually walking the streets, it is difficult to miss the invitation to play (Fig. 7.3) and Julia explains that this particular game is often used as a “calling out” at public events, or a way to attract



Fig. 7.2 Jigsaw game: Cargos e Cargas



Fig. 7.3 A super-sized version of Guess Who: Cara a Cara

and engage casual passers by in discussions about politics. The FFDP version of Guess Who is designed to scaffold learning through impromptu dialogue about politicians—their positions and roles in government, party alliances—with people from diverse backgrounds. In addition, the physicality of the gaming elements allows people to take ownership of different pieces, holding and feeling them whilst thinking about where to place an item or what they represent. As such, playing also involves learning through bodily actions that support the negotiation of meaning and the integration of knowledge (Clark, 2010; Kirsh 2013).

FFDP most recent game has been developed in partnership with AMATRA XV (2020). AMATRA XV, or the Association of Labour Justice Magistrates in the 15th Region, is a not-for-profit civil society, formed by members from the judiciary sector (judges and retired judges). Members of this association are people who practice

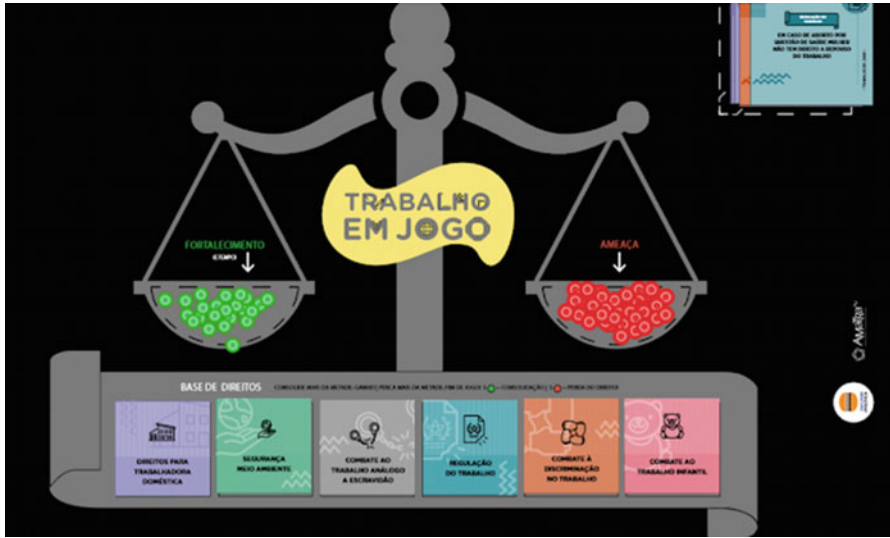


Fig. 7.4 Game of Work

(or have practiced) law, but who are also interested in intellectual development through social action. AMATRA XV promotes understanding of citizenship and labour laws in public schools around the State of São Paulo. In this newly designed boardgame, players are challenged to search for a balance of justice affairs. As such, the Game of Work (Fig. 7.4) foregrounds the importance of Labour Courts in guaranteeing strategic rights, discussing themes associated with the rights of domestic workers; the importance of combating slavery-like work and child labour; the promotion of work regulation, safety and awareness of environmental issues. The game brings carefully chosen real-life cases, which represent everyday scenarios in the world of work, and asks players to play the role of civil society. What is revealed through this game is that some rights in our social imagination are “more relevant” than others. There have been dozens of games sessions played, and in almost all these sessions, the environment and the rights of domestic workers were often the first to be “sacrificed”. Brazil is the Latin American country with the largest number of domestic workers (International Labour Organization, 2013) and it was only in 2013, that Brazilian domestic workers were granted access to social security, having their rights recognized (International Labour Organization, 2020). Overall, this game was designed to address the need to understand existing rights, but also to question inequality and social justice. As many other games by FFD, the Game of Work articulates that to consolidate civil rights in society, people need to question invisible structures and to understand how official public structures work. They also need to notice the importance of supporting collective interests. FFD partnership with AMATRA XV for the development of the Game of Work illustrates a way that FFD is expanding their own network, by searching for and forging partnerships and

connections to other organizations that hold similar values, and in so doing, strengthening their own ability for social impact and reach.

FFDP organizes gaming sessions in formal and informal educational settings, with sessions run on free market days and other popular public events, including those advertised via social media. They have also run sessions in public primary and secondary schools with students and teachers. Sessions with teachers may include the ideas and methodology that inspired FFDP, or the “behind the scenes” insights into the development of specific games. As part of these sessions, teachers become developers themselves, and they are invited to think and share new ways of playing an existing game, or to contribute ideas for the development of a new game. FFDP has plans for these new ideas to be (re)packaged and shared with all.

7.5.2 *Meso Level*

Overall, the concept of “fast food” evokes the idea of something easy to consume and with the added element of fun, their name and logo were designed to appeal to Brazilian youth. But at the heart of these ideas, is something far more profound, a commitment to empowering all Brazilians to take hold of both their future and their civil rights (*meso epistemic design*). Ultimately these games are about understanding the mechanisms of elections, how current political structures work, and the importance of choosing political representatives very carefully. Their overarching aim is to find ways to teach people about political systems and processes through gaming, offering experiences that engage learners in critical thinking whilst having fun. In many respects, FFDP enacts Freire’s (1972) ideals of critical pedagogy, where the freedom of all is connected to their ability to deal critically with reality, and to find ways of actively participating in the transformation of their world. In Freire’s (1972) own words: “only dialogue, which requires critical thinking, is also capable of generating critical thinking. Without dialogue there is no communication, and without communication there can be no true education” (p. 65).

Those working at FFDP are fierce champions of inclusion and diversity and this is reflected in the attention they pay to the social organization of their gatherings—designed to include representatives of “all voices”, voices from different social classes, ages, ethnicities, and work experiences (*meso social design*). A cards game called Rights and Silence is another example of their preoccupation with themes of inclusion and discrimination. This game invites discussion about women’s civil rights, whilst problematising issues of gender discrimination within the Brazilian historical context. Game-players reflect on rights that have been formally acquired, and discover others, which might not have eventuated yet.

Whether these highly visible materials are being used as “calling out” or passed around, physical game elements invite people to think and make a stand and this activity, in turn, often attracts the attention of a broader audience, who is then invited to participate in, widening the circle of the political debate. As people engage in conversations about political systems, they reflect on, learn, and share ideas with

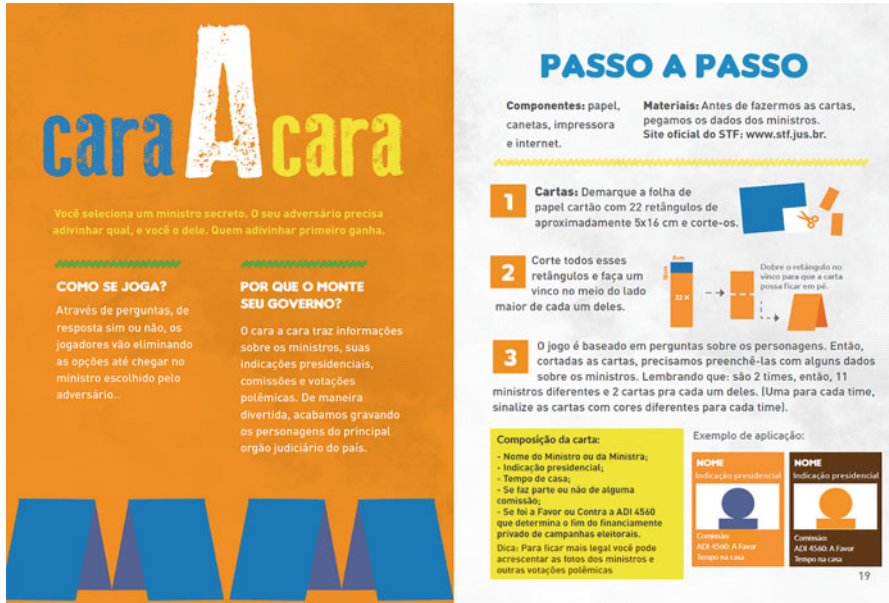


Fig. 7.5 Guess Who (Cara a Cara): Downloadable manual with step-by-step instructions to make your own version of the game

others. Main themes at the *meso epistemic design* include a curriculum geared at learning about: (1) structures of the Brazilian government and the three powers’ system—legislative, executive and judiciary, (2) government roles and responsibilities, (3) the make-up and backdrop of pre-election debates, and (4) issues of gender representation within politics.

Important principles of this network are also enacted in the digital realm—often used to bring people together via social media and providing access to open resources and platforms for sharing. As such, at the *meso set design*, FFDP also reaches outwards, reflecting coherence with open resources and platforms for sharing their ideals and games. FFDP capitalizes on social media and crowdsourced funding to support their activities and game development, through online initiatives that invite contributors to sponsor the creation of sets, workshops in schools, and announce open events in public spaces. Their online environment is carefully designed to complement physical events, with information and resources to support those interested in “spreading the fun” and enacting their shared vision. Facebook and Instagram groups reach an audience of over 5000 followers each. Online resources include free downloadable blueprints of the games, including detailed manuals illustrating different ways they can be played (Fig. 7.5). Their ideas and ideals are generously shared as OERs, an act that is positioning FFDP as a leader in innovation and political social action, in the broader Brazilian educational community.

As Nørgaard and Paaskesen (2016) remind us, if we are aiming to foster an “imaginative society and enterprising citizenship, we need education that embraces the complexity of messy but intentional interactions, playful but serious disruptions, critical but communal discussions, systematic but emerging processes and improvisational but deliberate products” (p. 22) which together might contribute to transformative experiences.

7.6 Facing New Challenges in Times of Social Distancing

With Brazil being one of the most affected countries since the recent COVID-19 outbreak (WHO, 2020), FFDP is now facing new design challenges. Like many education institutions, schools and universities in highly affected communities, FFDP’s work came to a standstill in early March 2020. Having to re-think and adapt their pedagogical strategies to the online mode brought new challenges on how to take their game sessions to virtual scenarios. Health concerns imposed novel physical distancing rules, disrupting what is possible in terms of *micro social design*. This has affected FFDP physically located game sessions, which no longer can be realized at open spaces, requiring new configurations for *micro set design*. Overall, COVID-19 restrictions have been requiring deep thought and creativity, to re-design and modify core elements, and offer game sessions that comply with the need for maintaining 2 m distancing.

The move to online learning has been widely discussed, since the COVID19 outbreak (Hodges et al., 2020). But taking game sessions to virtual settings in a developing country can be extremely complex. It involves not only thinking about the re-design of new elements, such as how to play games using digital technologies (e.g. laptops, tablets, or smartphones) (*micro set design*). But it is also about the presence (or absence) of a reliable infrastructure that may successfully support online activity (e.g. reliable WiFi, Internet connection, bandwidth and data access) (*meso/macro set design*). Unfortunately, Brazil’s status as a developing nation also means that digital inequality issues are present, and certainly become more evident as COVID-19 restrictions and health concerns pose that everyone needs to work and learn from home. Infrastructure elements that enable emergency remote learning are sometimes taken for granted by those living in wealthier nations, whilst educating and living in a developing country brings a range of extra considerations about equity (Czerniewicz, 2020).

For FFDP this means that adapting games to the virtual realm has not been easy. The young women who run this network are still motivated in trying to figure out how to manage the challenges in set design with considerations about multiple issues, such as bandwidth and streaming of game sessions, and what to do about Internet connections that are not always reliable. These issues need to be at the forefront of their (re)design of the FFDP games.

7.7 Conclusion and Future Directions

This chapter introduced and discussed FFDP as a case study, which is part of a larger research project that is gathering and examining the structural composition of various productive learning networks in formal and informal educational settings (Carvalho & Yeoman, [forthcoming](#)). At the micro level, the case study examined how the quality of materials support the development of educational innovation, whilst at the meso level this organization, driven by young women, is building-up a learning network for social action, empowering children, youth and adults to learn about the mechanisms of politics and their civil rights.

Understanding the architecture of learning networks involves noticing how a specific assemblage of elements contributes to valuable learning outcomes, with a focus on how key designable elements influence emergent learning activity—it is about foregrounding part-whole relationships at various levels of granularity: micro, meso and macro. The ultimate goal of this educational design work is to identify key designable components for future (re)use, and in so doing, to contribute to improvements in (new) designs for networked learning. One way of abstracting core lessons-learned and packaging them for reuse is through the notion of design patterns (Alexander et al., 1977), which we are currently exploring in our research (Carvalho & Yeoman, [forthcoming](#)). The case study of FFDP may be of particular interest for educators in the many developing countries experiencing similar issues as those described in the context of the Brazilian political arena. FFDP showcases a learning network that reflects coherence and consonance in the composition of its structural elements, mixing fun and familiarity, inclusion and openness, to help people critically think, learn and teach political matters, and in so doing, to empower learners to take hold of their own future. Like many others living in developing countries, FFDP is currently having to re-design their games whilst carefully considering how to remain as inclusive as possible. FFDP continues to search for productive ways of helping Brazilians move forward.

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References

- Alexander, C., Ishikawa, S., Silverstein, M., Jacobson, M., Fiksdahl-King, I., & Angel, S. (1977). *A pattern language: Towns, buildings, construction*. Oxford University Press.
- AMATRA XV. (2020). <http://www.amatra15.org.br>
- Bayeck, R. (2020). Examining board gameplay and learning: A multidisciplinary review of recent research. *Simulation & Gaming*, 51(4), 411–431. <https://doi.org/10.1177/1046878119901286>
- Carvalho, L., & Goodyear, P. (Eds.). (2014). *The architecture of productive learning networks*. Routledge.

- Carvalho, L., & Goodyear, P. (2020). Productive learning networks. In M. Peters (Ed.), *Encyclopaedia of teacher education*. Springer.
- Carvalho, L., & Yeoman, P. (2019). Connecting the dots: Theorizing and mapping learning entanglement through archaeology and design. *British Journal of Educational Technology*, 50(3), 1104–1117.
- Carvalho, L., & Yeoman, P. (forthcoming). *Learning to teach in innovative spaces: A toolkit for action*. Routledge.
- Chiarello, F., & Castellano, M. G. (2016). Board games and board game design as learning tools for complex scientific concepts: Some experiences. *International Journal of Game-Based Learning*, 6(2), 1–14. <https://doi.org/10.4018/ijgbl.2016040101>
- Clark, A. (2010). *Supersizing the mind*. Oxford University Press.
- Creswell, J. (2003). *Research design: Qualitative, quantitative and mixed methods approaches* (2nd ed.). Sage.
- Cronin, C. (2017). Openness and praxis: Exploring the use of open educational practices in higher education. *The International Review of Research in Open and Distance Learning*, 18(5).
- Cronin, C., & MacLaren, I. (2018). Conceptualising OEP: A review of theoretical and empirical literature in Open Educational Practices. *Open Praxis*, 10(2), 127–143.
- Czerniewicz, L., Agherdien, N., Badenhorst, J., Belluigi, D., Chambers, T., Chili, M., et al. (2020). A wake-up call: Equity, inequality and Covid-19 emergency remote teaching and learning. *Postdigital Science and Education*. <https://doi.org/10.1007/s42438-020-00187-4>
- Dicheva, D., Dichev, C., Agre, G., & Angelova, G. (2015). Gamification in education: A systematic mapping study. *Educational Technology & Society*, 18(3), 75–88.
- Dohn, N. (Ed.). (2018). *Designing for learning in a networked world*. Routledge.
- Donovan, T. (2017). *It's all a game: The history of board games from Monopoly to Settlers of Catan*. Thomas Dunne Books.
- Ehlers, U. (2011). Extending the territory: From open educational resources to open educational practices. *Journal of Open, Flexible, and Distance Learning*, 15(2), 1–10.
- Farber, M. (2017). *Gamify your classroom: A field guide to game-based learning* (Revised ed.). Peter Lang.
- Fenwick, T. (2015). Sociomateriality and learning: A critical approach. In D. Scott & E. Hargreaves (Eds.), *The Sage handbook of learning* (pp. 83–93). Sage Publications.
- Freire, P. (1972). *Pedagogy of the oppressed*. Penguin.
- Gee, J., & Hayes, E. (2012). Nurturing affinity spaces and game-based learning. In C. Steinkuehler, K. Squire, & S. A. Barab (Eds.), *Games, learning, and society: Learning and meaning in the digital age* (pp. 129–153). Cambridge University Press.
- Goodyear, P. (1999). Pedagogical frameworks and action research in open and distance learning. *European Journal of Open and Distance Learning*. Retrieved from <http://www.eurodl.org/materials/contrib/1999/goodyear/>
- Goodyear, P., & Carvalho, L. (2014). Framing the analysis of learning network architectures. In L. Carvalho & P. Goodyear (Eds.), *The architecture of productive learning networks* (pp. 48–70). Routledge.
- Goodyear, P., Carvalho, L., & Yeoman, P. (2021). Activity-Centred Analysis and Design (ACAD): Core purposes, distinctive qualities and current developments. *Educational Technology Research & Development*. <https://doi.org/10.1007/s11423-020-09926-7>
- Hodgson, V., & McConnell, D. (2019). Networked learning and postdigital education. *Postdigital Science and Education*, 1(1), 43–64. <https://doi.org/10.1007/s42438-018-0029-0>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). The difference between emergency remote teaching and online learning. EDUCAUSE Review. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Iivari, N. (2018). Using member checking in interpretive research practice: A hermeneutic analysis of informants' interpretation of their organizational realities. *Information Technology & People*, 31(1), 111–133. <https://doi.org/10.1108/ITP-07-2016-0168>

- International Labour Office. (2013). *Domestic workers across the world: Global and regional statistics and the extent of legal protection*. International Labour Office. Retrieved from https://www.ilo.org/wcmsp5/groups/public/%2D%2D-dgreports/%2D%2D-dcomm/%2D%2D-publ/documents/publication/wcms_173363.pdf
- International Labour Office. (2020). Extending social security and facilitating transition from the informal to the formal economy: Lessons from international experience. *Policy resource package*. International Labour Office. Retrieved from https://www.ilo.org/secsoc/information-resources/publications-and-tools/Brochures/WCMS_749480/lang%2D%2Den/index.htm
- Jimena, H., Carvalho, L., & Vieira, E. (2019). Designing for distance learning in developing countries: A case study. *Journal of Open, Flexible and Distance Learning*, 23(1), 5–16.
- Kirsh, D. (2013). Embodied cognition and the magical future of interaction design. *ACM Transactions on Computer-Human Interaction*, 20(1), 1–30.
- Lieberman, N. (1977). *Playfulness: Its relationship to imagination and creativity*. Academic Press.
- Moseley, A., & Whitton, N. (2014). *New traditional games for learning: A case book*. Routledge.
- Muell, M., Guillory, W., Kellerman, A., Rubio, A., Scott-Elliston, A., Morales, O., Eckhoff, K., Barfknecht, D., Hartsock, J., Weber, J., & Brown, J. (2020). Gaming natural selection: Using board games as simulations to teach evolution. *Evolution*, 74(3), 681–685. <https://doi.org/10.1111/evo.1392>
- Networked Learning Editorial Collective. (2020). Networked learning: Inviting a redefinition. *Postdigital Science and Education*. <https://doi.org/10.1007/s42438-020-00167-8>
- Nichols, C., & Ashe, D. (2014). Diseña el Cambio: Helping Mexican school children to design a better world. In L. Carvalho, & P. Goodyear (Eds.), *The Architecture of Productive Learning Networks*. Routledge
- Nørsgaard, R. T., & Paaskesen, R. B. (2016). Open-ended education: How open-endedness might foster and promote technological imagination, enterprising and participation in education. *Conjunctions: Transdisciplinary Journal of Cultural Participation*, 3(1), 1–25. <https://doi.org/10.7146/tjcp.v3i1.23630>
- Nørsgaard, R. T., Toft-Nielsen, C., & Whitton, N. (2017). Playful learning in higher education: Developing a signature pedagogy. *International Journal of Play*, 6(3), 272–282. <https://doi.org/10.1080/21594937.2017.1382997>
- Oblinger, D. (2006). Games and learning. *Educause Quarterly*, 3, 5–7. <https://er.educause.edu/articles/2006/1/games-and-learning>
- Rooney, P., & Whitton, N. (2016). *Game-based learning and the power of play: Exploring evidence, challenges and future directions*. Cambridge Scholars Publishing
- Sardone, N., & Devlin-Scherer, R. (2016). Let the (board) games begin: Creative ways to enhance teaching and learning. *The Clearing House*, 89(6), 215–222. <https://doi.org/10.1080/00098655.2016.1214473>
- Schaffer, D. (2006). Epistemic frames for epistemic games. *Computers & Education*, 46(3), 223–234.
- Sørensen, E. (2009). *The materiality of learning: Technology and knowledge in educational practice*. Cambridge University Press.
- Squire, K., & Jenkins, H. (2004). Harnessing the power of games in education. *Insight*, 3, 5–33.
- Stake, R. E. (2006). *Multiple case study analysis*. The Guilford Press.
- Wenger, E., McDermott, R., & Snyder, W. M. (2002). *Cultivating communities of practice*. Harvard Business School Press.
- Whitton, N. (2014). *Digital games and learning: Research and theory*. Routledge.
- WHO. (2020). Coronavirus disease (COVID-19) pandemic. Numbers at a glance. Retrieved from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- Yeoman, P. (2015). *Habits & habitats: An ethnography of learning entanglement*. Doctoral thesis, The University of Sydney. Retrieved from <http://hdl.handle.net/2123/13982>
- Yeoman, P. (2018). The material correspondence of learning. In R. A. Ellis & P. Goodyear (Eds.), *Spaces of teaching and learning: Integrating perspectives on research and practice* (pp. 81–103). Springer.
- Yeoman, P., & Carvalho, L. (2019). Moving between material and conceptual structure: Developing a card-based method to support design for learning. *Design Studies*, 64, 64–89.