Replay 1(6) 2019
https://doi.org/10.18778/2391-8551.06.01

Milan Jaćević*

The Matter at Hand: A Practice-Theoretical Model of Digital Gaming

Introduction

Researchers working within game studies have often foregrounded the fact that games facilitate and help structure specific activities, in some cases highlighting it as a defining feature of the cultural form. For Thomas Malaby, the processual aspect of games is fundamental, with each instance of game-playing always characterized by a potential for "generating new practices and meanings, possibly refiguring the game itself" (Malaby 2007, 102). Along similar lines, Kurt Squire has noted that one of the key characteristics of (digital) games is that they are "organized around doing" (Squire 2006, 22), arguing that they set the stage for a functional epistemology of learning through performance (Squire 2006, 22). However, when approaching games from the perspective of activities they engender, we are faced with the problem of a vast multiplicity of forms and shapes these activities may take. In order to center and orient their further charting and exploration, there is a need for understanding and systematizing the common characteristics of the various activities which fall under the heading of gaming.

In this paper, I seek to contribute to this area of research on games by drawing on practice theory and the work of Pierre Bourdieu in order to examine the interaction between players and (specifically *digital*) games and advance a conceptual model of digital gaming[1] as a form of human practice. I begin by outlining approaches to ludic literacy, situating my work in the context of research regarding the practical aspects of this form of literacy. In the following section, I offer a brief outline of Bourdieu's approach to practice theory, which is then applied to interactions with

* The Royal Danish Academy, Institute for Visual Design; e-mail: mija@kadk.dk

1 In this paper, I use the term "gaming" as a general shorthand for *any act of playing a game*; it is not meant to imply a particular, normative way of playing.

digital games in order to create the initial version of the model of digital gaming practice. I then present details of an exploratory case study with players of different profiles, which were conducted in order to test and adjust the model. I conclude by outlining the limitations of the study, as well as potential benefits of the model for the field of game studies and research into ludic literacy.

Ludic literacy

When describing someone as a game player, we often resort to making classifications on the basis of their game preferences, familiarity, and style of play, among others. The label in question presupposes that the person possesses some degree of experience and knowledge in relation to the cultural form. However, as it is currently understood, ludic literacy extends beyond what may be broadly construed as the ability to play certain kinds of games. In his 2003 work on the topic, James Paul Gee puts forth the view of literacy as always being in relation to specific *semiotic domains*, which he defines as "any set of practices that recruits one or more modalities (e.g., oral or written language, images, equations, symbols, sounds, gestures, graphs, artifacts, etc.) to communicate distinctive types of meanings" (Gee 2003, 18). Under this view, games are seen as an interconnected family of semiotic domains characterized by specific content and social practices. Ludic literacy involves not just the acquisition of certain skills and the generation of knowledge with regards to a particular game or game type, but also membership in *affinity groups* built around said game or game type (Gee 2003, 27). Ludic literacy entails becoming involved in and learning about both the internal and external *design grammars* of a specific semiotic domain – in other words, about what is considered to be typical in terms of content and social practices related to a particular category of games (Gee 2003, 30).

In the years since Gee's initial work with the concept of (digital) game literacy, scholars have proposed alternative models of its different elements. Daniel Buckingham has suggested analyzing game literacy as a particular type of media literacy, by focusing on one or more of four perspectives: *representation*, *language*, *production*, and *audience* (Buckingham 2008, 78–80). Along similar lines, Eric Zimmerman has proposed a reframing of game literacy (or, to use his preferred term, *gaming literacy* (Zimmerman 2009, 25)) around clusters of practice, which emerge in relation to three concepts: *play*, *systems*, and *design* (Zimmerman 2009, 24). More recently, Jeroen Bourgonjon (2014) has argued for a more detailed structuration of video game literacy, and offers a view of game literacy in terms of its *operational*, *cultural*, and *critical* dimensions (Bourgonjon 2014, 5–6). There have also been attempts at detailed examination of specific components of game literacy – for example, by José Zagal, who has argued that humans understand games in four ways: 1) as artefacts which are products of human culture; 2) comparatively,

by examining them alongside other games/game genres; 3) with regards to the technological platform used for their operation; and 4) by deconstructing them into smaller units and analyzing their interaction, and the practices and experiences they facilitate (Zagal 2010, 24).

This sampling of work done in the domain of game literacy serves to illustrate its conceptual complexity, which invites interdisciplinary research. As noted by Buckingham and Burn (2007) and Squire (2008), researchers of game literacy may focus on the artefactual or experiential characteristics of the cultural forms themselves, or on the social practices and contexts which surround and make meaningful the activity of play. In ideal circumstances, they should adopt a synthetic view and not neglect either dimension. While calls for more comprehensive outlooks on game literacy are both valid and needed – and, indeed, have been pursued by authors such as José Zagal (2010) – it ought to be said that such work could be viably complemented by bottom-up approaches aimed at specifying particular, fundamental aspects of game literacy. One such aspect, according to Squire, is the performative nature of games – "[t]o be literate in the gaming medium means to be able to do things with games; one cannot imagine claiming to be "literate" with games, yet never have finished a game (or substantial portion thereof)" (Squire 2008, 651). This performative – or, rather, *practical* – component of ludic literacy is what I seek to examine in this paper, and I do so with the aid of practice theory.

Practice theory

According to Sherry Ortner, the general analytical goal of practice theory is to shed light on the relationship between human action and global, systemic entities (Ortner 1984, 148). The versatility of the concept of practice, often understood as *regularized*, *social*, *needs-based*, and *normatively assessed action* (Couldry 2012, 69–71), has led to it being used in domains as distinct as digital media (Couldry 2012, 69–71), management (Tengblad 2012), and education (Lynch et al. 2016), among many others.

Gaming practices, however, are generated by a very wide variety of systemic entities we may call games. Even if we limit ourselves to *digital* games, as a subset of these entities which require some form of computer technology for their operation, we will still need to contend with the fact that they generate experiences which seem to have very little in common, but which are still understood to be (in common parlance, at least) experiences of digital gaming, which engender particular forms of performative or practical literacy. The activity of playing *Tetris* (Pajitnov, Pavlovsky & Gerasimov 1986) is obviously different to the activity of playing *The Sims* (Maxis 2000); the former has the player rotate and position multicolored blocks of various shapes in a time-sensitive fashion, stacking them as compactly as possible with

the goal of avoiding block overflow, while the latter has been described as "an interactive, intelligent dollhouse" (Flanagan 2003, 1) with no overarching goals or objectives prescribed by the game system. Yet, we would still not hesitate to label those who partake in either activity as players, any more than we would to label the activities themselves as playing a (digital, computer, or video) game. How are we, then, to understand the practical commonalities shared by the various forms of digital gaming, the existence of which acts as prerequisite for our understanding of the different digital gaming practices under the same heading?

The Bourdieusian approach

To answer the question above, I turn to the work of Pierre Bourdieu, one of the scholars most prominently associated with practice theory (Rouse 2007). Bourdieu's theory of practice is a *constructivist* form of structuralism (Bourdieu 1989, 14; 1990, 14), which reintroduces the figure of the agent into a field of relations with objective structures. It focuses on the meeting point between the two, being centered on "the mode of production and functioning of the practical mastery which makes possible both an objectively intelligible practice and also an objectively enchanted experience of that practice" (Bourdieu 1972/2013, 4). This "practical mastery" is neither a mechanical following of particular social rules, nor rational calculation consciously deployed in order to achieve some explicit future goal. It is instead an intuitive, incorporated "feel for the game […] acquired by experience of the game, and one which works outside conscious control and discourse (in the way that, for instance, techniques of the body do)" (Bourdieu 1990, 61). Practice is to be understood in relation to its *practicality* – or, in other words, its logic or *sense*. Bourdieu describes practical sense as "the 'art' of necessary improvisation" (Bourdieu 1972/2013, 8); it is a cognitive, embodied, and learned *potential for performance*, rather than simply deterministic obeisance of rules and models.

Practical sense operates on a fundamentally intuitive, distinctly corporeal level, with the agent acquiring and deploying principles of certain practices during interaction with specific objective structures (Bourdieu 1980/2014). This time-sensitive process results in the development of a particular *habitus*, a collection of "transposable, durable dispositions" (Bourdieu 1972/2013, 72), which structure the agent's understanding and navigation – practical, but also more broadly cultural – of a given environment. Practices take place in discrete *fields*, social arenas that similarly orient the behavior and strategies of agents operating therein (Bourdieu & Wacquant 1992, 97). An agent interacting with other agents within a particular field develops a specific practical sense and – more broadly – habitus, suitable to the demands of that field and adjusted to its objective structures.

Bourdieu's understanding of practice and his conceptual framework have already been used in relation to digital games and gaming. Mia Consalvo has offered the concept of *gaming capital* as a variation of Bourdieu's *cultural capital* (Consalvo 2007, 4). Graeme Kirkpatrick has centered the discussion of the formation of digital gaming culture in the 1980s on the Bourdieu-inspired concept of *gamer habitus* (Kirkpatrick 2015, 7). Rune Klevjer and Jan Fredrik Hovden have drawn on Bourdieu in order to map dispositions of players towards particular types of digital games (Klevjer & Hovden 2017). However, Bourdieu's concepts and theories have thus far not been used for examining situated, embodied aspects of digital gaming as a practical activity. In order to address this research gap, we first need to ask: what would a Bourdieusian view of digital gaming entail?

The practice(s) of digital gaming

In the domain of digital games, we can draw parallels between Bourdieu's notion of practical sense and the performative aspects of gaming literacy as discussed by Squire (2008): both encompass the acquisition and deployment of certain knowledge and skills in the act of game playing, and both entail a practical, learned familiarity with (different kinds of) digital games. However, applying Bourdieu's more general understanding of practice to interactions with digital games is hampered by the fact that these artefacts are not a single, unified, coherent, objective domain which would relate to the production of a singularly appropriate habitus and practical sense. A 2D platforming game like *Rayman Legends* (Ubisoft Montpellier 2013) bears little in common in terms of gameplay activity with a 3D turn-based strategy title such as *Civilization V* (Firaxis Games 2010), or the fast-paced, first-person shooter (FPS) experience of *Doom* (iD Software 1993), or the less-directly structured play in *The Sims*. Yet, all four of the titles inarguably fall under the heading of digital games. The difficulty in understanding and discussing their differences also relates to the lack of an effective theory of genre in game studies, an issue remarked upon by, among others, Tom Apperley (2006) and Dominic Arsenault (2009).

The task of discussing practices generated by artefacts collectively labeled as digital games is made difficult by virtue of two opposing characteristics of said artefacts. On the one hand, the actual performance of the player is facilitated by the design and operation specificities of the particular game they are playing (Leino 2009; Vahlo 2017). As a result, said performance takes on various shapes and forms from one game to another. However, spanning all artefacts we call digital games is a substratum of operation patterns, which, at their most basic level, may have more in common with software operation than anything we might otherwise usefully designate as game-playing. Included in the running of all digital games as a material basis is some form of a computational machine (laptop/desktop computer, tablet,

mobile phone, gaming console), some form of hardware which allows for player input (mouse and keyboard, touchscreen, gamepad), and some form of hardware which allows for output of audio-visual and other forms of feedback (screen, speakers, vibration motors). For the activity of digital gameplay to be constituted, the player would need to know how to operate these hardware elements, as well as how to navigate the software packages to instantiate the gameplay session.

Instead of shunning the many forms they may take, we should pragmatically embrace the multiplicities and varieties of digital gaming practices. From the standpoint of activity, we may not be able to talk about a single, generalized digital gaming habitus, but we may certainly admit that individual instances of said habitus *share certain commonalities*,[2] if, in certain cases, only in terms of the ability to operate the fundamental material (hardware/software) components of a particular gaming platform. Without this material familiarity at the point where our bodies meet the digital gaming technology in the most rudimentary way, we could not be players of digital games, at least not in any sense of the term which implies a degree of agency. As a category, it is a necessary component of digital gaming practice in all its manifestations, and a fundamental element of a player's practical sense of digital games.

Yet, gameplay is always instantiated by specific titles, which require particular abilities and skills for the activity to be sustained. In any of the games in *The Sims* franchise, I would need to learn the basic commands and be able to execute them in order to play the game, regardless of whether I pursue any sort of self-established goal or not. In other games, lack of proper skills negatively affects performance and may collapse gameplay. If my reaction time is not good enough, I may not be able to play a title like *Doom* for a long time without the activity coming to an end. As a consequence of playing particular titles over a longer period of time, players acquire and develop the skills required for successful and continual playing of said titles, with the extent and pace of the development depending on a number of game-, player-, and context-specific factors (as discussed in e.g. Huang et al. 2017).

Though each title necessitates, in Jesper Juul's terms, a particular *repertoire* of player skills (2005, 140), or, as Aki Järvinen would put it, a particular *ability set* (2009, 163), there is often significant overlap in the skills and/or abilities required by two titles belonging to the same group. Being proficient at playing a title like *Doom* may not directly translate to *Quake* (iD Software 1996) or *Halo: Combat Evolved* (Bungie 2003), but can certainly be said to ease the activity of gameplay in the latter games, perhaps to the point where it makes more sense to talk about the player's skills being *adapted* rather than outright acquired. Conversely, someone who has exclusively been playing FPS games in the tradition of *Doom* may well develop a practical sense (and, more broadly, habitus), attuned to games of that kind, but might also initially

2 These could also be described in Wittgensteinian terms, as *family resemblances* between different instances of habitus (see Wittgenstein 1953/1958).

have trouble adjusting to the different performative requirements posed by a turn-based, role-playing (RPG) strategy game like *Final Fantasy Tactics* (Squaresoft 1998). This is because successfully and continually playing said title would require learning a distinctly new repertoire of skills, not to mention potentially familiarizing oneself with an unknown material system[3] – processes which would, in turn, expand one's practical sense of digital games as a whole.

When talking about the operation of digital game artefacts and the practical sense they generate in players, we are thus talking about a sensible familiarity which comprises, at the very least, *three different layers of practical prowess*. At its most basic, practical operation of any digital game artefact entails *material familiarity* with the platform environment, necessary to instantiate gameplay. The activity of gameplay itself is dependent on a *title-specific familiarity* in the form of a particular repertoire of skills needed to play a particular game, which are themselves dependent on generalized human abilities, which vary in level from player to player. The overlap in skill requirement between several titles enables us to also talk about clusters of gameplay skills, as part of the layer of *genre-specific familiarity* with what we could label as genres or types of gameplay experiences. The boundaries between the three layers are soft, and depend on the level of granularity employed in one's understanding of the notions of material, genre, and title. On the basis of this division, we are able to conceive of a general model of practice in relation to artefacts we may call digital games (Figure 1).

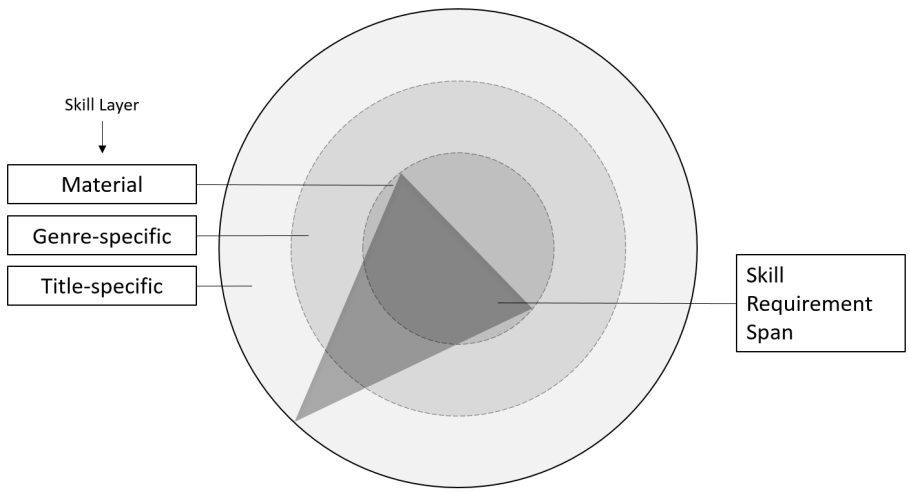


Figure 1. General model of digital gaming practice.

3 Though *Doom* was originally released for MS-DOS, it exists in versions for many platforms, including various consoles; *Final Fantasy Tactics*, meanwhile, is a PlayStation exclusive.

In any given instance, digital gaming practice may be understood as predicated upon the acquisition, development, and deployment of material, genre-specific, and title-specific skills, required as part of the activity of gameplay instantiated by a particular digital game artefact. In the model, these skills are depicted with three concentric circles, each standing for a particular layer of practical prowess in operating digital games. The central circle represents the cluster of skills related to material operation; as these are required for the very instantiating of digital gameplay and are limited in number (due to the relatively few digital gaming platforms), they are expanded upon in some capacity in each instance of digital gaming. In contrast, the theoretically infinite number of points on the outermost rim of the model is meant to stand for skills related to specific titles, solely and uniquely tied with the experience of playing a particular game, or even version of said game. The isosceles triangle, with a base in the center of the circles and the apex pointing outward, illustrates the skills required in an idealized instance of digital gaming practice; the difference in size at each of the layers is due to this specialization and proliferation of skills as we move from the center to the periphery.

The model in its current state is *not* meant to be harnessed to chart all of the various skills with relation to specific material components, genres, or indeed titles. Instead, its function is to help visualize an abstracted instance of collective skills and competences required of a single hypothetical player in relation to a single hypothetical game.

Case study

Since the first iteration of the model was constructed based on assumptions resulting from a review and synthesis of theoretical texts, testing with the aid of players of different levels and types was deemed necessary to examine the premises behind the model's functioning. In order to address these, and in order to guide the case study, the following questions were developed:

1. Is there a connection between the level of gameplay performance, and previous gameplay and/or hardware familiarity?

2. To what extent can we talk about a stratification of skills in relation to digital gameplay activities?

Design and method

The guiding questions outlined above were investigated using an exploratory case-study approach relying on a mix of qualitative methods, in the vein of already existing player- and gameplay-centric research in the field of game studies

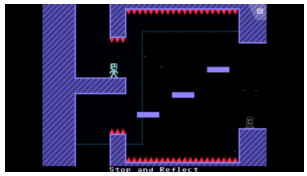
(see e.g. Barr 2008; Iacovides 2009; Shaw 2013). According to Robert Yin, case studies are suitable for generating in-depth understandings of complex real-life phenomena (Yin 2009, 18). The case study approach also allows for the production of concrete, context-dependent knowledge (Flyvbjerg 2006, 223), and, as such, can be employed for the testing of research hypotheses and theory-building (see Eisenhardt 1989). Therefore, the case study approach was deemed valid in light of the format and guiding questions motivating the research.

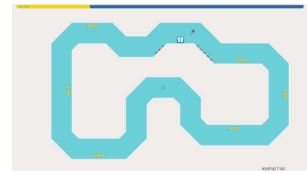
The methods employed in the case study consisted of a short questionnaire on platform, genre, and game title familiarity and preferences, observed gameplay sessions with three game titles sharing gameplay similarities and played with three different input methods, and recorded post-session interviews.

Four participants (two female, two male, ages 24–30) took part, and were recruited using purposive sampling (Bryman 2012, 418) on the basis of their level of familiarity with the type of gameplay on offer in the three game titles, in order to ensure maximum variation between them (Flyvbjerg 2006, 230) and thus account for the effects of previous gaming experience. Testing took place in a university game lab.

The three games played were the iOS version of *VVVVVV* (Terry Cavanagh 2014), played on an iPad Pro, the Windows version of *Super Meat Boy* (Team Meat 2010), played with an Xbox One game controller, and the Windows version of *N++* (Metanet Software 2016), played using the computer keyboard (Figures 2, 3, and 4, respectively). All three games are 2D platformers, chosen for their minimalistic, yet challenging gameplay, which consists of movement and obstacle navigation. The order in which the games were played (*VVVVVV* → *Super Meat Boy* → *N++*) was deliberate and made in light of increasing gameplay complexity from one title to the next, with the simplest title in terms of actions presented to the players first.[4] During the play sessions, the researcher observed the players and took notes, while video recording software captured the players' in-game performance. Pertinent comments were noted by the researcher observing the gameplay and then referenced during the follow-up interview.

4 In all three games, the only available actions are those of avatar movement. *VVVVVV* differs from the other two titles in that there is no jump mechanic, but rather a "gravity flip" which causes the player avatar to fall up or down. In *Super Meat Boy*, the player avatar can move, jump, and run along the ground and walls. *N++* offers the same range of movement actions as *Super Meat Boy*, except that the avatar's speed of movement cannot be toggled with the press of a button, but is instead accumulated as the avatar accelerates in motion.





Figures 2, 3, and 4. Screenshots from the three games used in the case study (from left to right: *VVVVVV*, *Super Meat Boy*, *N++*)

The data was prepared for analysis using an open coding process (Strauss and Corbin 1998). The process entailed examining the data and generating a suitable number of concepts related to the target domains of player skill, gameplay experience, and hardware familiarity, and then categorically grouping these concepts for easier examination and cross-reference. The data was then labeled using both general, a priori codes related to the target domains, as well as emergent codes which came about during the multiple instances of data review.

Participant profiles

May[5] is a 30-year-old female from Serbia, who plays digital games from time to time. She most often plays on smartphones, and has mentioned past experiences with platformers, strategy games, and RPGs, though her current gaming habits revolve around casual smartphone games.

Andy is a 28-year-old male from Bulgaria, who often plays digital games. His platform of choice is the PC, though he also has certain experience with games on smartphones. His favorite genres are multiplayer online battle arenas (MOBAs), strategy games, first- and third-person shooter games, puzzle game, and RPGs. He expressed specific dislike of platformers, due to self-perceived poor performance in games of this type.

Alice is a 25-year-old female from Denmark, who also plays digital games often. She predominantly plays on smartphones, has some experience with certain consoles (PlayStation 3 and 4), and only limited experience with tablets. She expressed a preference for life-simulation and construction and management games, strategy games, puzzle games, and quiz games, and mentioned that she believes she is not good at playing games with a controller, as she lacks experience with that input method.

Lastly, Simon is a 24-year-old male from Bolivia, also a frequent player of digital games. His current gaming platform of choice is the PC, though he also reported playing games on smartphones and, to a lesser degree, tablets. He stated

5 Participant names have been altered for anonymity.

that he frequently plays platformers, puzzle games, adventure games, action games, and FPSs, describing himself as skillful at playing the first three of these genres in particular.

Results

Gameplay performance

The participants achieved different degrees of progress in each of the games (see Figure 5 for a statistical overview of their performances[6]), and displayed different playing styles. May and Alice played in a more completionist fashion, repeatedly trying to collect difficult-to-reach items on single screens/levels, unlike Andy and Simon, who mainly seemed concerned with moving on to the next screen/level. Overall, all of the players seemed to quickly get an understanding of what was required of them in each level of each game, with varying degrees of success in performance.

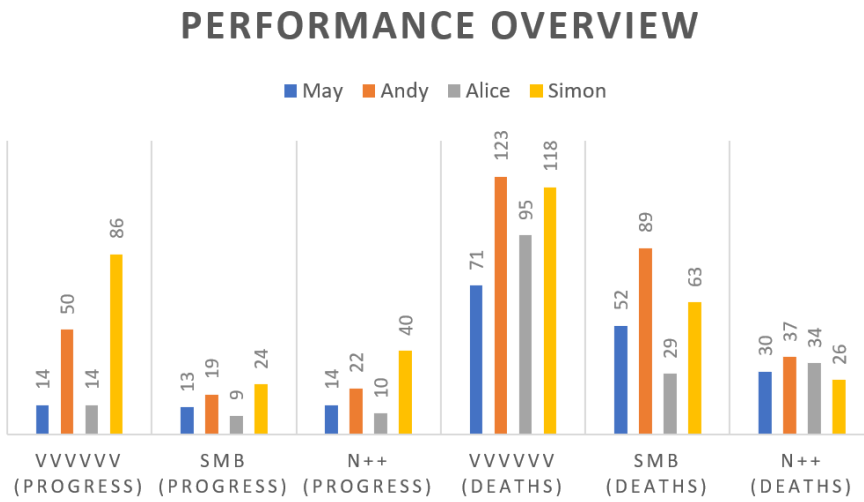


Figure 5. A statistical overview of the performances of each of the participants in each of the games. Here, *progress* stands for the number of discrete screens (in *VVVVVV*) or levels (in the other two games) cleared, while *deaths* stands for the number of times the participant's avatar encountered an obstacle which forced the participants to restart from a checkpoint (in *VVVVVV*) or the beginning of the level (in the other two games).

6 The statistics are here given in order to facilitate a quick and purely numerical overview of the participants' performances. While the numbers enable comparison between the players on their own, they should not be taken as sole indicators of skill in a particular game, and will consequently be contextualized with qualitative data throughout this section.

All of the players also frequently made mistakes in all three of the games, albeit in relation to different types of challenges. Wall jumping in *Super Meat Boy* and, to a lesser extent, *N*++ posed a problem for May and Alice, while jumping off of a ramp onto a wall in *N*++ proved arduous for all four participants. Andy also had problems with running and jumping at the same time in *Super Meat Boy*, while Simon found precision jumps through gaps in walls in the later stages of the same game to be difficult. Andy and Simon both struggled a lot with one particularly demanding segment of *VVVVVV*, as part of which the player avatar is in free fall and the player has to input commands delicately and in a timely fashion. Nevertheless, Simon completed the segment in about a minute and a half; it took Andy close to three minutes to do so. Out of all three players, only Simon described himself as skilled in relation to the games and characterized his performance as good. The others believed it would take them several hours to become good at the style of gameplay on offer in these games. All of the participants also expressed difficulty adjusting to playing on the iPad; in case of some of them (May and Andy), it even influenced their impression of the game they played.

Prior gameplay and hardware familiarity

In the post-session interviews, all four players reported at least a degree of prior familiarity with games similar to the three they had just finished playing. May and Alice reported only limited familiarity with platformers, with both stating they had not played such games in a long time. Andy was the only one of the four participants who had previously (some four years prior) played the PC version of *Super Meat Boy*, using the keyboard as an input method. Simon was quite familiar with the kind of gameplay on offer in the three titles, as he had extensive experience with platformers, his preferred genre of games.

The four players also differed in their level of hardware familiarity. May was not used to playing either on tablets or with controllers, feeling most at home with smaller screens on smartphones and keyboards as methods of input. Similarly, Andy had very limited experience playing on tablets, to which he attributed his difficulties with *VVVVVV* and errors during early stages of the game. He also mentioned having some experience playing with controllers, but predominantly being a keyboard-and-mouse PC gamer. Alice had some familiarity with games on tablets, mostly having played word-connect games, which required one motion at one time, but mentioned that those experiences had taken place a long time prior to the study. Lastly, as a PC gamer, Simon was very familiar with the keyboard, with substantial experience with game controllers, having played a lot on the original PlayStation in childhood. His level of experience with the touchscreen as a method of input did include games of the kind he played during the session.

Discussion

Performance impact of gameplay and hardware familiarity

The findings of the study indicate that it is possible to relate the level and type of performance in a game of a particular kind to previous gaming experiences with games of the same kind – or, in Bourdieusian terms, to the degree of attunement of one's practical sense of gaming with the given game genre. In terms of the number of levels cleared in a 15-minute timespan, the player with the most experience with platformers (Simon) achieved the best result by far in all three games. Andy, despite his professed dislike of platformers, was the only one out of all four of the players who had had prior experience with one of the three games (*Super Meat Boy*) and came in second in all three, with his performance in the game in question, statistically speaking, being much closer to Simon's that in the other two games. Lower familiarity with platformers in the case of May and Alice translated into comparatively poorer performances in all three games, with May, who referenced playing platformers in the past in the questionnaire, edging out over Alice in the case of the latter two games. However, the two performed rather similarly in case of *VVVVVV*, where the only difference was in the number of mistakes made resulting in the number of deaths. The similarity of performance in the case of this game, played on the tablet, may be attributed to fact that both players spent nearly a third of their time trying to collect items which required solving a single particularly difficult (and optional) challenge, alluding to a difference in play style compared to Andy and Simon, who, for the most part, disregarded the collection element in all three of the games.

Prior gameplay familiarity seemed to have more of an impact on performance than the level of hardware familiarity. Lack of familiarity with a particular method of input could, to a degree, be compensated with gameplay familiarity, as was the case with Andy, who, despite having very limited experience with tablets, got further ahead than May and Simon even in the case of *VVVVVV*. However, lack of familiarity with an input method did contribute to frustration; all four players expressed some level of difficulty in relation to playing *VVVVVV* on the tablet, stating that it took them some time to get physically adjusted to the control scheme. Finally, the study seems to indicate that a degree of familiarity with an input method in games of a particular type does not directly aid performance in all games which utilize the same input method. May, who frequently plays on smartphones, reported playing certain simpler games on tablets a long time prior, which required one motion on the touchscreen at a time; still, those experiences did not help her in *VVVVVV*, whose control scheme necessitates the use of two fingers at a time, to which she had difficulties adjusting.

Skill stratification in digital games

Thinking about separate layers of proficiency in relation to digital gameplay as a practice proved effective during the course of the study for pinpointing the participants' preferences and structuring the conversation about their gameplay performances. However, the relationship between the different layers, as well as their number and boundaries, seem to be more complicated than initially imagined in the original model. All of the participants had issues with certain challenges in each of the games, despite being relatively proficient with others in the same game. Along a similar line, experience with one genre, even if on a different platform, seemed to matter more for performance than general familiarity with a particular kind of input method used for playing the game – in other words, it was easier to adjust to hardware than to gameplay. Within the context of the general practice model, this finding implies the need for an uneven weight distribution between the different layers of skills required at certain points during the gameplay activity.

Modifications of the model

In light of the findings of the study, some updates have been made to the model of digital gaming practice. The updated model (Figure 6) now features an additional layer of *particular* skills, which are understood to be discrete, title- and *instance*-specific skills, required in a given moment of gameplay of a particular game. In the model, they are located on the outermost rim, now represented by a dotted line; the theoretically infinite number of points on said rim stands for equally infinite forms which particular skills may take, as they differ not only from title to title, but also from moment to moment of gameplay. To give an illustration, if we could imagine that one of the dots on the layer of particular skills stands for the know-how required to perform a jump along a single wall in *Super Meat Boy*, the dot next to it would represent jumping between two walls in the same game, while another dot in relative proximity would stand for the know-how required to perform a wall jump in *N*++.

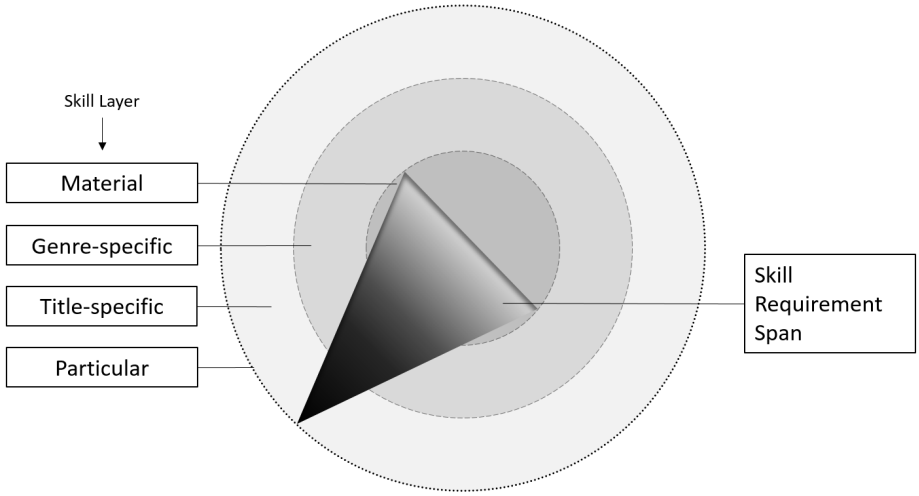


Figure 6. An updated general model of digital gaming practice.

The skill requirement span in the model has also undergone some changes resulting from the findings of the study. The shading from base to tip is meant to indicate the progressively increasing weight of skills in relation to performance in a given instance of digital gaming practice, with material skills affecting performance to a lesser degree than genre-specific, title-specific, and particular skills. This should not be taken to imply that material familiarity is not important for performance in a particular instance of a particular game, but rather that it cannot compensate for lower levels of more specific familiarity. If the performance of the participants in the study is anything to go by, the reverse seems to hold true: seasoned players of particular genres seem better equipped for that genre no matter the platform, unlike novices, who are hampered by their greater focus on pure operation in the initial stage of the activity.

Limitations and recommendations for future work

The study was conducted on four participants with different gaming backgrounds and preferences, and utilized three games of a single specific type, played with three different input methods. While the findings of the study do seem to confirm the basic assumptions behind the general model of digital gaming practice, the number of participants and the games, as well as the type of game used, limit the conclusiveness and generalizability of said assumptions. The changes to the model outlined above should be taken as incremental steps based on the results of this particular study, and not as final alterations resulting in a definitive model. Further,

larger-scale studies are needed, which ought to incorporate more participants, as well as test out their performances with regards to both familiar and unfamiliar genres and methods of input. In doing so, care should be taken to account for the factors which, due to constraints of time and scope, were simply not possible to consider as part of these particular study. Specifically, it would be interesting to delve deeper into individual playing styles, as well as attempt to connect realized gameplay practice to the other aspects of the Bourdieusian notion of habitus, such as preference and perception, which have been left unexamined in the study in favor of a focus on skill and performance.

Conclusion

In this paper, I have sought to contribute to the understanding of the practical aspects of ludic literacy, utilizing Bourdieusian practice theory and the multiple-method exploratory case study approach to develop and test a model for understanding digital gaming as a form of human practice. In its current state, the model represents a modest, but arguably needed addition to our understanding of performative aspects of literacy in relation to (specifically digital) games, providing a foundational framework for discussing and theorizing the vast array of practices enabled by digital games of various kinds. From a broader perspective, the approach taken in the paper is meant to illustrate the benefits of a closer connection between the domains of practice theory and ludic literacy (or, more broadly, game studies), something which has already been hinted at by literacy scholars as part of their examination of social practices which surround games. At this point in time, there is an increasing need for a much more detailed picture of player-game interaction, which has still not been conclusively charted in the field of game studies (or indeed in ludic literacy research). It would seem that practice theory frameworks are well-suited for accomplishing this goal, due to their focus on the multifaceted, active relationship that obtains between agents and systemic structures.

Bibliography

Apperley, Thomas H. (2006), *Genre and game studies: Toward a critical approach to video game genres*, "Simulation & Gaming", no. 37(1), pp. 6–23.

Arsenault, Dominic (2009), *Video game genre, evolution and innovation*, "Eludamos. Journal for Computer Game Culture", no. 3(2), pp. 149–176.

Barr, Pippin (2008), *Video game values: Play as human-computer interaction* (Doctoral dissertation), Wellington: Victoria University of Wellington.

Bourdieu, Pierre (1989), *Social space and symbolic power*, "Sociological theory", no. 7(1), pp. 14–25.
Bourdieu, Pierre (1990), *In other words: Essays towards a reflexive sociology*, Stanford CA: Stanford University Press.
Bourdieu, Pierre (1991), *Language and symbolic power*, Cambridge MA: Harvard University Press.
Bourdieu, Pierre (2013), *Outline of a theory of practice* (Trans. R. Nice), Cambridge: Cambridge University Press. (Original work published 1972).
Bourdieu, Pierre (2014), *The logic of practice* (Trans. R. Nice), Stanford CA: Stanford University Press. (Original work published 1980).
Bourdieu, Pierre, Wacquant, Loïc (1992), *An invitation to reflexive sociology*, Cambridge: Polity Press.
Bourgonjon, Jeroen (2014), *The meaning and relevance of video game literacy*, "CLCWeb: Comparative Literature and Culture", no. 16(5), pp. 1–8.
Bryman, Alan (2012), *Social Research Methods* (4th ed.), Oxford: Oxford University Press.
Buckingham, David (2008), *What do young people need to know about digital media*, [in:] Colin Lankshear, Michele Knobel (eds.), *Digital literacies: Concepts, policies and practices*, Peter Lang Publishing, pp. 73–88.
Buckingham, David, Burn, Andrew (2007), *Game literacy in theory and practice*, "Journal of Educational Multimedia and Hypermedia", no. 16(3), pp. 323–349.
Consalvo, Mia (2007), *Cheating: Gaining Advantage in Videogames*, Cambridge: MIT Press.
Couldry, Nick (2012), *Media, society, world: Social theory and digital media practice*, Cambridge: Polity Press.
Eisenhardt, Kathleen M. (1989), *Building theories from case study research*, "Academy of Management Review", no. 14(4), pp. 532–550.
Flanagan, Mary (2003), *SIMple and personal: Domestic space and* The Sims, [in:] *Proceedings of the Melbourne Digital Arts and Culture Conference*, Melbourne, May 19–23, pp. 1–4.
Flyvbjerg, Bent (2006), *Five misunderstandings about case-study research*, "Qualitative inquiry", no. 12(2), pp. 219–245.
Gee, James P. (2003), *What video games have to teach us about learning and literacy*, New York: Palgrave Macmillan.
Huang, Jeff, Yan, Eddie, Cheung, Gifford, Nagappan, Nachiappan, Zimmermann, Thomas (2017), *Master maker: Understanding gaming skill through practice and habit from gameplay behavior*, "Topics in Cognitive Science", no. 9(2), pp. 437–466.
Iacovides, Ioanna (2009), *Exploring the link between player involvement and learning within digital games*, [in:] *Proceedings of the 23rd British HCI group annual confe-*

rence on people and computers: Celebrating people and technology, British Computer Society, pp. 29–34.
Järvinen, Aki S. (2009), *Games without Frontiers: Methods for Game Studies and Design* (Doctoral dissertation), Tampere, Finland: University of Tampere.
Jenkins, Richard (1992), *Pierre Bourdieu*, London: Routledge.
Juul, Jesper (2005), *Half-real: Video games between real rules and fictional worlds*, Cambridge MA: MIT Press.
Kirkpatrick, Graeme (2015), *The formation of gaming culture: UK gaming magazines, 1981–1995*, Basingstoke: Palgrave Macmillan.
Klevjer, Rune, Hovden, Jan F. (2017), *The Structure of Videogame Preference*, "Game Studies", no. 17(2).
Leino, Olli T. (2009), *Understanding Games as Played: Sketch for a first-person perspective for computer game analysis*, [in:] *Proceedings of the Philosophy of Computer Games Conference*, Oslo 2009, pp. 1–15.
Lynch, Julianne, Rowlands, Julie, Gale, Trevor, Skourdoumbis, Andrew (eds.), (2016), *Practice Theory and Education: Diffractive readings in professional practice*, Routledge.
Malaby, Thomas M. (2007), *Beyond play: A new approach to games*, "Games and culture", no. 2(2), pp. 95–113.
Ortner, Sherry B. (1984), *Theory in Anthropology since the Sixties*, "Comparative studies in society and history", no. 26(1), pp. 126–166.
Rouse, Joseph (2007), *Practice theory*, [in:] Stephen P. Turner, Mark W. Risjord (eds.), *Philosophy of Anthropology and Sociology. Handbook of the Philosophy of Science*, Elsevier, pp. 639–683.
Shaw, Adrienne (2013), *Rethinking game studies: A case study approach to video game play and identification*, "Critical Studies in Media Communication", no. 30(5), pp. 347–361.
Squire, Kurt (2006), *From content to context: Videogames as designed experience*, "Educational Researcher", no. 35(8), pp. 19–29.
Squire, Kurt (2008), *Video-game literacy: A literacy of expertise*, [in:] Donald J. Leu, Julie Coiro, Michele Knobel, Colin Lankshear, *Handbook of research on new literacies*, pp. 635–670.
Strauss, Anselm, Corbin, Juliet (1998), *Basics of qualitative research: Techniques and procedures for developing grounded theory*, Thousand Oaks CA: Sage.
Tengblad, Stefan (ed.) (2012), *The work of managers: Towards a practice theory of management*, Oxford University Press.
Vahlo, Jukka (2017), *An Enactive Account of the Autonomy of Videogame Gameplay*, "Game Studies", no. 17(1).
Wittgenstein, Ludwig (1958), *Philosophical investigations* (2nd ed.), Oxford, UK: Basil Blackwell. (Original work published 1953).

Yin, Robert K. (2009), *Case study research: Design and methods*, Los Angeles CA: Sage.
Zagal, José P. (2010), *Ludoliteracy: Defining, understanding, and supporting games education*, LaVergne TN: ETC Press.
Zimmerman, Eric (2009), *Gaming Literacy: Game Design as a Model for Literacy in the Twenty-First Century*, [in:] Mark J.P. Wolf, Bernard Perron (eds.), *The video game theory reader 2*, London: Routledge, pp. 23–31.

Ludography

Bungie. (2003). *Halo: Combat Evolved* [Windows]. Redmond, WA: Microsoft Game Studios.
Firaxis Games. (2010). *Civilization V* [Windows]. Novato, CA: 2K Games.
iD Software. (1993). *Doom* [MS-DOS]. New York City, NY: GT Interactive Software Corp.
iD Software. (1996). *Quake* [MS-DOS]. New York City, NY: GT Interactive Software Corp.
Maxis. (2000-present). *The Sims* [Windows]. Redwood City, CA: Electronic Arts.
Metanet Software. (2016). *N++* [Windows]. Toronto, Ontario: Metanet Software.
Pajitnov, A., Pavlovsky, D., Gerasimov, V. (1986). *Tetris.* Moscow, Russia: AcademySoft.
Squaresoft. (1998). *Final Fantasy Tactics* [PlayStation]. San Mateo, CA: Sony Computer Entertainment.
Team Meat. (2010). *Super Meat Boy* [Windows]. Team Meat.
Terry Cavanagh. (2014). *VVVVVV* [iOS]. Santa Ana, CA: Nicalis, Inc.
Ubisoft Montpellier. (2013). *Rayman Legends* [Windows]. Montreuil, France: Ubisoft.

Milan Jaćević

Praktyczno-teoretyczny model grania cyfrowego

Abstrakt

Badania nad naturą grania są utrudnione przez różnorodność możliwych form, jakie może przybierać ta działalność. W artykule tym podejmuję ten problem, analizując gry (cyfrowe) pod szyldem teorii praktyki i próbuję rzucić więcej światła na praktyczne aspekty kompetencji ludycznych. Opierając się na założeniach teoretycznych i koncepcyjnych Pierre'a Bourdieu, przedstawiam ogólny model gier cyfrowych jako formy usytuowanej praktyki człowieka, a następnie prezentuję stu-

dium przypadku, zaprojektowane w celu przetestowania i skorygowania wstępnej wersji modelu. Choć poszerzenie zakresu stosowalności modelu wymaga badań na większej populacji graczy, wyniki naszego badania potwierdzają poprawność naszego modelu rozumianego jako teoria wyznaczania i osadzania praktyk wyrosłych z artefaktów ludycznych.

Słowa kluczowe: granie cyfrowe, teoria praktyki, Pierre Bourdieu, kompetencje ludyczne, groznawstwo, granie, umiejętności gracza

The Matter at Hand: A Practice-Theoretical Model of Digital Gaming

Abstract

Investigations into the nature of the activity of gaming have been made difficult by virtue of the plurality of possible forms this activity may take. In this paper, I address this problem by examining (digital) gaming under the heading of practice theory, in an attempt to shed more light on the practical aspects of ludic literacy. Building on the theoretical and conceptual frameworks of Pierre Bourdieu, I present a general model of digital gaming as a form of situated human practice, followed by details of a case study, conducted in order to test and adjust the initial version of the model. Though further research with a greater population of players is needed in order to expand the scope of the model, the findings of the study lend credence to its validity as a conceptual framework for delineating and framing different practices generated by digital game artefacts.

Keywords: digital gaming, practice theory, Pierre Bourdieu, ludic literacy, game studies, gameplay performance, gaming skills

Milan Jaćević – MSc, MA, is a PhD student at the Institute for Visual Design, The Royal Danish Academy. As part of his PhD project, he is creating digital game prototypes and conducting experimental studies to examine digital gaming from the standpoint of practice theory, centering said examination on Pierre Bourdieu's concept of the habitus.