# Game Designers and the Ludo Mix

Constructing an Aesthetic Experience

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### ABSTRACT

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A ludo mix occurs when a variety of media are organized around one or several central games. While this might be an opportunity to build worlds and create new intellectual properties, it is also a marketing strategy. These two perspectives are often contradictory, and are difficult for game designers to address: how to design games in a ludo mix? Firstly, I establish a theoretical foundation, and suggest that a definition of ludo mix can encompass the game designer's experience more explicitly by relying on the pragmatist concept of "aesthetic experience" by John Dewey. Based on this perspective, I will demonstrate how Dewey's concepts complement the works of two major thinkers in Japanese media studies, Eiji Ōtsuka and Hiroki Azuma. Secondly, I validate the usefulness of Dewey's concepts for game designers by employing them in a "project-grounded" research approach. This particular project involves nine students enrolled in a narrative game design class, working on the franchise Aggressive Retsuko. The results show that pragmatism is indeed a fruitful philosophical stance for game designers; ludo mixes ought to be seen as "grand experiences" instead of "grand narratives".

#### Keywords

Ludo mix, Japanese media mix, franchises, game design, aesthetic experience, pragmatism, research through design, teaching-research nexus, project-grounded research, Aggressive Retsuko.

### INTRODUCTION

With the rise of media franchises, game designers are more and more solicited to create games that are part of a larger vision, where movies, novels or comics are intertwined. As a North American game researcher, I am in constant contact with all kinds of franchises and products, from the *Rabbids Amusement Park* to the infamous *Star Wars: Battle Front II* game (Motive Studio 2017).

In North American game studies, transmedia was popularized by Henry Jenkins and his theory about media convergence (Jenkins 2006). But Japanese media studies have also considerably contributed to the field. Indeed, Japanese "media mix" has been studied academically since at least the eighties, when one of the most prominent authors, Eiji Ōtsuka, published *Monogatari shōhiron* (1989).

According to Ōtsuka, a media mix can be understood as an opportunity to create original narratives. As he puts it, each piece of a media mix represents an opportunity to develop an extensive

world inhabited by multiple characters, otherwise known as a "grand narrative" (Ōtsuka and Steinberg 2010). Jenkins' work on franchises (2006) also shows that media ensembles are capable of producing impressive narratives, like modern counterparts to traditional mythological tales (Patrickson and Young 2013). This is an inspiring perspective for game designers who wish to take part in creative and meaningful projects.

Unfortunately, these noble aspirations often only come second to economic reality. A media mix is usually first and foremost a marketing strategy (Picard and Pelletier-Gagnon 2015, Steinberg 2015). In this respect, Hiroki Azuma's work is often cited as a counterargument to Ōtsuka (Patrickson and Young 2013, Ōtsuka and Steinberg 2010). Azuma suggests that "grand narratives" are dead and that media nowadays tend to be reduced to disparate bites of information, consumed without a global meaning (Azuma 2009 [2001]). Indeed, a significant portion of TV shows and video games are created in order to sell toys (Hartzheim 2016).

These two perspectives often clash, making ludo mixes difficult for game designers to work with. Built upon the work of pragmatist philosopher John Dewey, this paper suggests another approach to ludo mix creation based on the concept of "aesthetic experience". While taking into account the work of Japanese authors Ōtsuka and Azuma, the results of this study suggest that pragmatist philosophy can open new research avenues and help designers work on ludo mixes in a cohesive and satisfying manner.

The first part of this paper is an exploration of the ludo mix theories and the new elements they bring to our understanding of game creation in transmedia. To begin, I will retrace how video games became such an important part of media mixes. I then will present Ōtsuka's and Azuma's concepts, detailing their unique visions of authorship in a media mix. Finally, I will introduce Dewey's work on the aesthetic experience, and justify its use as an alternative vision of media consumption and authorship. The second part of the paper will be dedicated to putting Dewey's concept to the test. Using Dewey's notion of aesthetic experience, nine students were asked to create an Aggressive Retsuko media mix by adding a game to the franchise. This project-grounded research approach demonstrates how Dewey's concept can be useful for understanding ludo mixes from game designers' point of view.

Finally, I will discuss the results in relation with Ōtsuka and Azuma's work.

# FROM TRANSMEDIA TO LUDO MIX: NEW CHALLENGES FOR GAME DESIGNERS

The promotion of video games as central products in media mixes is relatively new. As such, understanding how ludo mixes came to the foreground is necessary to furthering this research.

Briefly summarized, Jenkins' transmedia theory (2006) describes the convergence of different media in order to tell parts of a larger story while keeping the whole narrative structure coherent. Franchises are thus aggregations of media that create greater narratives, such as the Matrix universe. Japanese media mixes have the same premise according to Ōtsuka: each piece of a media mix is an occasion to develop on a "grand narrative", an extensive world inhabited by multiple characters (Ōtsuka and Steinberg 2010). However, thanks to Marc Steinberg's translation and research on the subject of the Japanese media mix, we now realize that several aspects differentiate it from North American franchises.

Firstly, Steinberg underscores the pronounced divergences in Japanese media mix: several versions of a world can coexist. For example, characters can die in a manga and live in its anime adaptation. Moreover, Japanese media mixes integrate fan art or caricatures into their marketing strategy (Steinberg 2012, Nakamura and Tosca 2019). Jenkins actually modified his initial

definition of transmedia storytelling to incorporate those aspects (Gallarino 2013).

Secondly, Steinberg pinpointed a useful distinction between "marketing media mix", "anime media mix" and "gameic media mix". According to Steinberg, it was in postwar American and Japanese marketing theory that the term "media mix" first arose (in 1963, precisely) to designate a strategy of advertising spread across various media, in order to reach a larger audience. Importantly, the advertisements diffused are not the product to be consumed, but are a means to an end: incite more purchases.

In order to avoid confusion, Steinberg introduced a clear distinction between marketing mix and a media mix. In a "media mix", an anime and its other related products (manga, movies...) are not advertisements, but true products: "The anime media mix, on the other hand, has no single goal or teleological end; the general consumption of any of the media mix's products will grow the entire enterprise." (Steinberg 2012, 141). In the seventies, the three primary forms of media in synergy were books, films and soundtracks. However, Steinberg showed that the first Japanese media mix was *Tetsuwan Atomu* (Astro Boy, Tezuka, 1963), which was based on an anime. Indeed, Japanese media mixes are quite often articulated around a central anime, as the work of Hartzheim (2016) also suggests. As such, Steinberg contends that the term "anime media mix" defines most Japanese media mix attempts (Steinberg 2012).

However, in 2015, Steinberg introduced a new term: the "gameic media mix", or video game media mix (Steinberg 2015). Through a historical analysis of media mixes, he shows that video games are indeed an important part of media combinations. He demonstrates that the link between manga and video games was especially important in the production of *Mōryō senki Madara* (MADARA,1987), created by Ōtsuka himself for Kadokawa productions. As Steinberg specifies: "*Madara* began not as a game, but rather as a manga that mimicked the properties and

rules of a role-playing game" (Steinberg 2015, 45). According to Steinberg, *Madara* became the first prototype of media mixes centered on games.

Moreover, Ōtsuka later used the success of *Madara* to develop his theory of media mix *Monogatari shōhiron (1989) (A Theory of Narrative Consumption*). Ōtsuka was a visionary, as he immediately perceived the importance of games and the challenge their design represents. In fact, he hired a game designer to help him in the serialization of *Madara*:

As part of the preparation for the serialization of *Madara*, Ōtsuka enlisted the help of a game designer to design the rules for the *Madara* world. Hence, while initially a manga in form, the *Madara* world operates according to a set of rules much like the worlds of *Dragon Quest* or *Dungeons and Dragons*. These rules mostly lie in the background of the narrative, but the RPG gameic elements of the manga come to the fore periodically (Steinberg 2015, 47).

Steinberg also indicates that Ōtsuka defines himself as a "game master", a term conventionally reserved for the creator and narrator of tabletop role-playing games.

Gradually, games have become more and more central to media mixes. This evolution of transmedia storytelling was at the heart of the DiGRA 2019 Conference, themed around "ludo mix". The importance of games raises questions about the role of game designers. In Japanese media mixes, there is a strong connection between game designers and marketing departments. Ōtsuka valorizes game designers, and has worked with one since the beginning of *Madara*. Many Japanese media mixes also market toys and have a tight bond with toy designers (Hartzheim 2016). This relationship seems to be exciting for game designers who aspire to create a "grand narrative" (Ōtsuka and Steinberg 2010).

However, in North America specifically, the role of games in media mixes is still up for debate. Many Western media mixes are not centered on games, and their integration with the other media is

difficult (Brookey 2010). In his book, Hollywood Gamers (2010), Robert Alan Brookey interrogates gamers about video games in media franchises. He admits that they have a rather pejorative view of them: "You know, most of those games based on movies are really bad", said one of his participants, to which Brookey added "I found it difficult to disagree" (Brookey 2010, 138). According to him, a video game's marketing often overshadows its design, especially in transmedia storytelling. In Steinberg's words, we might say that a game is more closely related to a marketing mix than a media mix. Games become advertisements and product placement opportunities, more than anything else. In this situation, game designers tend to see media mixing as an economic necessity that hinders their creative process. White (2009) warns us that "market forces are killing digital games": even when a franchise is centered on games, some companies keep making similar games belonging to profitable licenses, with no concern for creativity or quality.

Beyond issues with marketing, Brookey notes that game designers do not seem to know how to design in a media mix. They do not appear to dialogue harmoniously with other media, and tend to reproduce what has already been done in the video game industry. Brookey believes that the "media convergence" reinforces the differences between media, instead of opening new and unexpected paths for storytelling through cross-pollination. He even concludes his book with some rather depressing words: "Even if these new narrative forms come into being, convergence may turn them back into the same old games. In that case, the games we play next will continue to look much like the games we have already played." (Brookey 2010, 140)

These conclusions might appear common, but they are paradoxical. Firstly, media mixes are not solely marketing strategies, as Steinberg demonstrated: Japanese gameic media mixes, like *Pokémon* (Game Freak 1996) or *Final Fantasy* (Square Enix 1987) are successful examples. Moreover, the relationship between marketing and media mixes does not have to be such

a difficult one. In fact, the idea of studying the "consumption experience" first appeared in North American marketing studies during the eighties (Carù and Cova 2003). The "consumer experience", an experience which is "totally dependent on what the market offers" (Carù and Cova 2003), is orchestrated by the marketing team. Inversely, a "consumption experience" designates an experience where other aspects, like family or friendship, are more important than the marketed products. People are no longer considered primarily as consumers. Thus, it looks like game designers and marketing teams could work together toward the realization of ideal ludo mixes if they reconsidered their steadfast consumerist view of games.

Secondly, game designers are responsible for the game, not the marketing team: the designer's reluctant attitude toward franchises might actually be symptomatic of a lack of design methods and tools for the media mix. This is indeed the situation observed amongst game designers of casual games (Chiapello 2013). The experience of designing a game remains a mysterious one: most of the time, game design methods focus on games and the experience of playing them, not on the process of making them (Kuittinen and Holopainen 2009, Chiapello 2017, Kultima 2015). The process is often summarized in three steps: prototyping, testing and refining. In complex projects, like ludo mixes, this seems a bit thin (Kuittinen and Holopainen 2009).

This last point is in line with game design research. As such, this paper covers ways of consuming and *designing* franchises, and asks: "How to design games in a ludo mix?" This question will be answered by studying Ōtsuka's and Azuma's work on ludo mixes, and cross-referencing them with Dewey's concept of aesthetic experience.

# THE LUDO MIX EXPERIENCE: CONSUMPTION AND CREATION

As mentioned earlier, one of the most important theorizations of the Japanese media mix (Steinberg 2012) emanated from Ōtsuka's work in *Monogatari Shōhiron* (1989). The book is essentially a collection of essays and is available only in Japanese. However, thanks to Steinberg's translation, we can now read some parts of it in English (Ōtsuka and Steinberg 2010) and better understand "narrative consumption". The notion of "narrative consumption" has been criticized by Azuma, who suggests replacing it with the "database consumption" model. Both models will be detailed in relation to the designer's role and contrasted with Dewey's concept of aesthetic experience.

#### Narrative Consumption

In his essay entitled World and variation: The reproduction and consumption of narrative, Ōtsuka introduces the concept of the "grand narrative". Referencing Baudrillard, he explains that Japanese consumer society no longer revolves around tangible products, but around "signs" and intangible ideas. In order to illustrate his argument, Ōtsuka analyzes the phenomenon of Chocolates (Bikkuriman Chokorēto). Bikkuriman Briefly summarized, these chocolates, sold at the end of the eighties, were actually uninteresting as candies. However, they contained stickers with character portraits and lore that allowed children to construct an exciting saga involving diverse protagonists in an imaginary world. The story inside Bikkuriman Chocolates was not extracted from any existing work and was thus only accessible through these "fragments of information" contained in each package. As Ōtsuka puts it: "what the candy maker was 'selling' to children was neither the chocolates nor the stickers, but rather the grand narrative itself" (Ōtsuka and Steinberg 2010, 106).

As shown, the grand narrative is a story that is whole and complete (and often quite rich), but is slowly discovered through fragments. Said fragments can be stickers, but also anime episodes, manga books, etc. Prior to the commercialization of these fragments, the creators must imagine what Ōtsuka calls a "worldview" or "settings" that will be progressively revealed. Narrative consumption thus corresponds to the indirect consumption of a narrative thought the assemblage of different fragments and their "small narrative" (Ōtsuka and Steinberg 2010). As Steinberg notes, this is very different from previous media mix approaches, where repetition was the key: "the film repeating the narrative of the book and the soundtrack repeating the film minus the image track" (Steinberg 2012, 181). Contrarily, Ōtsuka suggests that fragments are complementary variations, not just repetitions.

Ōtsuka concludes his essay on a worried note concerning authorship. He fears that fragments created by consumers might overtake the original narrative and eclipse the author. However, Steinberg's reading of Ōtsuka's works suggests another opinion; contrary to Ōtsuka, who affirms that the assemblage of fragments will eventually lead to the completion of the "grand narrative", Steinberg stresses that the multiplication of fragments is actually a strategy to keep expanding the narrative: "what we find is a simultaneous fleshing out and expansion of this world such that the reader never actually grasps the totality after all. The reader, in following the series across media, continually learns more yet becomes less certain at the same time" (Steinberg 2012, 182). What is interesting is that this strategy becomes, according to Steinberg, a way for the author to maintain their dominant position: even if fan fictions of all sorts are encouraged, the narrative cannot be solely controlled by consumers, as the original author can always add new details to the canon that encourage a new reading of the world. Thus, from a designer's point of view, the narrative consumption model seems promising, as it gives authors the ability and liberty to expand the franchise universe.

#### **Database Consumption**

The second key author is Azuma, who is known as one of the main critics of Otsuka's theory of the grand narrative (Steinberg 2012). His influential book, *Otaku: Japan's database animals* (Azuma 2009 [2001]), is primarily focused on Otaku culture. However, through the idea of "database consumption", it also indirectly offers a new perspective on media mixes.

Database consumption is an evolution of Ōtsuka's narrative consumption. For Azuma, the term "grand narrative" refers to the idea that there is always an underlying ideology or single unified worldview that can explain everything (a view that was thoroughly dismissed by postmodernism). For Azuma, when the last of the real-world ideological enterprises collapsed, such as Marxism, "grand narratives" should have disappeared. However, some works of fiction tried to offer a "grand narrative" of substitution. "Fictional grand narratives" in media thus became a way to coddle disillusioned consumers looking for comfort in an imaginary world. Yet, according to Azuma, our transition to the postmodern era made grand narratives a thing of the past. The new generation does not seek these grand schemes anymore: "Consequently, any scheme for analyzing this consumer behavior that proposes that these fragmentary works had already compensated for 'the loss of grand narrative' is not really appropriate" (Azuma 2009 [2001], 36). Therefore, for Azuma, media consumption needed a postmodern theorization, ridden of "grand narratives".

To flesh out this postmodern theorization, Azuma suggests the "database consumption" model. He uses a "layered" metaphor to compare the grand narrative model and the database model. In the former, the grand narrative constitutes the base layer, while narrative fragments occupy the second layer. The second layer's fragments always spring from the first layer, ensuring coherence in meaning and worldview. In Azuma's database model, the base layer is no longer occupied by a grand narrative; it is instead an

aggregation of various "settings", which act like disparate parts. For Japanese anime characters, such examples include "cat ears", "antenna hair" or "maid costume". The second layer is made up of works that recombine these elements without preserving the original worldview. The base layer is a database of elements, not a coherent narrative. Azuma insists: "To summarize the discussion up to this point, there is no longer a narrative in the deep inner layer, beneath the works and products such as comics, anime, games, novels, illustrations, trading cards, figurines and so on" (Azuma 2009 [2001], 53). One consumes the database directly, without the need to connect the small narratives to a grand narrative.

Azuma's database model offers a new perspective on consumption, one where the idea of pleasing consumers is more important than expressing a message: "The intensity of the works does not come from the message or narrative embedded there by the author but is decided according to the compatible preferences of consumers and the *moe*-elements dispersed in the works" (Azuma 2009 [2001], 88). Azuma even compares Otaku consumers to drug addicts looking for a fix.

Without necessarily adhering to Azuma's radical view of consumers, his concept of database consumption allows us to question the way in which designers envision ludo mixes. Is the database model an adequate replacement of Ōtsuka's grand narrative model for authors? Azuma states that "Now the author is no longer a god" (Azuma 2009 [2001], 61). His analysis of the character Digiko, from the franchise *Di Gi Charat* (Koge-Donbo 1998), demonstrates that the designers' role is mutating: "In fact, the design of Digiko is a result of sampling and combining popular elements from recent Otaku culture, as if to downplay the authorship of the designer" (Azuma 2009 [2001], 42). This vision of authorship might not appear very attractive to game designers. In fact, as noted by the translators in the book's preface, "Certainly some readers will find a serious pessimism in Azuma's prediction of the future of humanity" (Azuma 2009 [2001], xxvii). Combined

with Brookey's (2010) cynicism concerning the questionable quality of games in ludo mixes, we might begin to wonder if designing games for franchises is even an interesting prospect for game designers. But, as Azuma's translators stress, this pessimistic view might also be taken as a call to action, an opportunity to rethink our relationship with culture, marketing forces and consumerism (Azuma 2009 [2001]).

# A THIRD VISION OF CONSUMPTION IN MEDIA MIX: DEWEY AESTHETIC EXPERIENCE

On one hand, with "narrative consumption", the author is a god that can reshuffle the structure of its world, and add new pieces of information at any time. On the other hand, "database consumption" designers are close to mere executants, developing databases dependent on the market forces, with little sense of authorship. To help designers overcome this dilemma, a more nuanced approach is needed, and I would like to introduce the pragmatist concept of *aesthetic experience*.

#### Pragmatism in Game Design Research

Dewey's concept of *aesthetic experience* is particularly relevant in regards to recent game design methods and game design epistemology (Chiapello 2020, 2017, Lankoski and Holopainen 2017).

Game design research has flourished as a part of game studies, resulting in several game design method books, although, as stated in the introduction, game studies typically focus on the object designed (games), rather than the process of designing (Kuittinen and Holopainen 2009, Chiapello 2017). Indeed, numerous texts describe how to analyze games (for example, Björk and Holopainen 2004, Hunicke, LeBlanc and Zubek 2004, Rollings and Morris 2004). Additionally, considerable attention was granted to players. Several authors have proposed theories on

the subject of play, using reflections from the fields of phenomenology, cognitivism, all the way to psychology (Keogh 2018, Sudnow 1983, Swink 2009, Sweetser and Wyeth 2005). But in the end, very few authors elaborated on their vision of game design activities: "the activity called design, is left to too little attention" (Kuittinen and Holopainen 2009, 7).

In order to provide a richer illustration of game design activities, several authors have turned their attention toward design theories in general (Kuittinen and Holopainen 2009, Chiapello 2013, Kultima 2015). According to them, the practice of game design has a lot in common with other design disciplines, such as industrial design, interior design, architecture and urbanism. Game design research can benefit from the outcomes of debates that have already occurred in design disciplines.

Indeed, design disciplines struggled to establish the sound epistemological foundations needed in order to become an academic discipline. Designers were seen mostly as practitioners applying different techniques borrowed from other disciplines. Thus, "design" was viewed as an "applied science", not a science in itself (Cross 2001). However, design disciplines took a pragmatist turn in the eighties, following Donald Schön's seminal work The reflective practitioner (Schön 1983). Schön employed a pragmatist approach to show that the division between knowledge and action is artificial, and that this division unfortunately bars us from the valuable insight of professionals (Schön 1983). Overcoming the duality between knowledge and action was indeed one of Dewey's main achievements. Using this argument, design researchers argued that designers are not blindly applying knowledge from other disciplines (psychology, anthropology...) but that they have their own knowledge, acquired through practice, that can be elicited and formalized (Cross 2001). Design became a full-fledged discipline, with its own unique concepts to explain design practice. A good number of the design process models developed since then have fostered pragmatist philosophy (Melles

2008, Dalsgaard 2014), often referencing Dewey's work in an attempt to breathe new life into the field.

Some game design researchers thus followed the lead; Jussi Kuittinen and Jussi Holopainen (2009) used Schön's work to describe game design as a situated practice. I also used Schön's and Dewey's work about "inquiry" to study the creative process of game designers (Chiapello 2019). Concerning the concept of aesthetic experience specifically, Philip Deen (2011) explains how video games can be considered as art using pragmatism, and highlights the importance of the transaction between the creator and the receptor. He concludes his paper with: "Dewey's pragmatic philosophy of art offers one way to frame future discussion of video games – one sensitive to its interactive nature and standing as popular entertainment – and, perhaps more importantly, to aid in making better ones" (Deen 2011). The act of playing video games as an aesthetic experience has also been explored by Veli-Matti Karhulahti (2014), who applies the concept to puzzles. Additionally, Tad Bratkowski (2010) gives a detailed analysis of playing Rock Band as an aesthetic experience. However, none of them made use of the concept from a game designer's perspective.

This study participates in this pragmatist trend of game design research. Indeed, the practice of "ludomixing" raises questions about how to make better games for franchises. I will now explain Dewey's concept of aesthetic experience (Dewey 1980 [1934], 1958 [1925]), insisting on its potential as a guide toward creating games for franchises.

# The Aesthetic Experience as a Model of Consumption and Authorship

Experience is a central concept in Dewey's work. Drawing on Charles Darwin's work, Dewey believed that human beings are in constant transaction with their environment. This is what he calls "experience": the constant dialogue between an organism and a situation. He then established distinctions between various experiential qualities, and subsequently built his theory of aesthetics around them (Dewey 1980 [1934]).

Generally speaking, "aesthetics" can refer to specific attributes in video games, or, in a narrower sense, to the graphic aspects of a game (Niedenthal 2009). But Dewey gave the term a new meaning. Dewey's concept of *aesthetic experience* stems from a critique of "Art": he thought that limiting aesthetic experiences to what we see in museums strips everyday life of any aesthetic pleasure, any beauty. Instead, Dewey believed that aesthetic experiences could manifest themselves in everyday life. An aesthetic experience is simply a special kind of experience, a "mode" of experience (Biesta and Burbules 2003). The aesthetic experience is introduced in Dewey's seminal book, *Art as Experience*, in a twofold fashion: the receiver's experience, and the creator's.

Dewey begins by focusing on what it is to have an aesthetic experience, to be on the receiving end. He defines "an" experience as a special kind of experience: "[...] we have *an* experience when the material experienced runs its course to fulfillment. Then and then only is it integrated within and demarcated in the general stream of experience from other experiences" (Dewey 1980 [1934], 35). Indeed, most of our experiences are, unfortunately, "inchoate" (interrupted, unfinished and incomplete). They are so mechanical and so routinized that they are meaningless. But sometimes, we have "an" experience: it is coherent, integral, and "flows freely" (Dewey 1980 [1934], 36), without being mechanical. Having "an" experience does not simply describe spectacular moments of our lives. Mowing the lawn, eating a meal, or finishing a game can be "an" experience, as long as it has meaning for the person doing it. Moreover, "an" experience can also occur during difficult or unpleasant events, like a storm or an argument. Playing video games can be an aesthetic experience. For Bratkowski, "To play the game [Rock Band] is to experience the

unity of each song, to sense the way in which transitions between verse, chorus, and bridge sections all fit together in a seamless whole" (Bratkowski 2010, 85).

Dewey then turns his attention toward the creator experience. Dewey believes that the purpose of an artist "is to create especially aesthetic experiences" (Hildebrand 2008). *Aesthetic* experiences in art occur when encountering the meaning created by someone else: "to be truly artistic, a work must also be esthetic — that is, framed for enjoyed receptive perception" (Dewey 1980 [1934], 48). An aesthetic experience is only perceived by the receiver if it is "linked to the activity of which it is the consequence" (Dewey 1980 [1934], 49). Thus, the concept of aesthetic experience not only concerns reception, but also creation. Deen and Bratkowski also acknowledge this point: "Clearly, this video game seems designed to produce an experience" (Bratkowski 2010, 85). Thus, video game design can be considered as an activity consisting in creating aesthetic experiences.

To sum up, aesthetic experiences occur when two forms of inquiry meet: the creator's inquiry (which looks for a way to translate an experience into a specific vessel), and the receiver's inquiry (which looks for meaning):

For to perceive, a beholder must create his own experience. And his creation must include relations comparable to those which the original producer underwent. They are not the same in any literal sense. But with the perceiver, as with the artist, there must be an ordering of the elements of the whole that is in form, although not in detail, the same as the process of organization the creator of the work consciously experienced [...] There is work done on the part of the percipient as there is on the part of the artist (Dewey 1980 [1934], 54).

Ultimately, designers and players enter a form of transaction mediated by the game: an aesthetic experience.

Aesthetic Experience and Ludo Mix

In relation to ludo mixes, two more aspects of Dewey's aesthetic experience deserve to be addressed.

The first is Dewey's insight into the creation process. According to him, creators do not simply elicit a raw emotion from the receiver, but aim to make a rich and complete experience:

Talented artists, then, are not simply conveying an emotion. They are clarifying, ordering, and modulating their initial emotional impulsions with careful and creative uses of their chosen media to express meaning. [...] The result of artistic expression then, is not the delivery of an emotion but a transformation of an experienced situation (Hildebrand 2008, 2670).

Creators must not convey disparate bits of emotion; instead they ought to reconstitute an entire experience. Dewey notes that creators must also "care deeply", even "love" what they've created.

"Aesthetic" refers to experience as both appreciative and perceptive. It is the side of the consumer. And yet, production and consumption should not be seen as separate. Perfection of production is in terms of the enjoyment of the consumer: it is not a mere matter of technique or execution. Craftsmanship is only artistic if it cares deeply about the subject matter *and* is directed toward enjoyed perception (Leddy 2014).

This means that a creator's sense of authorship must be very strong and humble at the same time.

The second aspect is the self-sufficiency of an aesthetic experience. In other words, aesthetic experiences are self-completing and don't require any exterior form of reward. Moreover, Dewey stresses that an aesthetic experience's end is "consummation and not a cessation" (Dewey 1980 [1934], 35). Drawing a parallel between experience and story (Dewey 1980 [1934], 43), Dewey explains that the end of an aesthetic experience

only makes sense because of what happened before: it is not simply a cessation, it is what gives the whole story it's meaning. Indeed, all the events of aesthetic experience are of equal importance: "This particular aesthetic quality of an experience is the result of the way the parts fit together in relation to this whole" (Bratkowski 2010, 84). As Dewey notes: "Occurrences melt and fuse into unity, yet do not disappear and lose their own character" (Dewey 1980 [1934], 36). This notion is particularly valuable in the context of the ludo mix, since different media can be seen as "parts" that have to "fit together". Dewey highlights the importance of wholeness in an aesthetic experience:

The form of the whole is therefore present in every member. Fulfilling, consummating, are continuous functions, not mere ends, located at one place only. An engraver, painter, or writer is in process of completing at every stage of his work. He must at each point retain and sum up what has gone before as a whole and with reference to a whole to come (Dewey 1980 [1934], 56).

While this is reminiscent of Ōtsuka's idea of "grandness", wholeness is not only located in the story, but in every part of the work. Unity comes from the reflective position of the creator, who should always evaluate the singular in the light of the whole. Therefore, a ludo mix is more closely related to a "grand experience" than a "grand narrative".

In the end, Dewey's aesthetic experience offers a new perspective on consumption and creation. While it has no direct link with the consumer society, it is nonetheless a criticism of meaningless and inchoate experience, and advocates for the development of more aesthetic experiences. Dewey also establishes a vision of authorship that can be considered a compromise between Ōtsuka's and Azuma's work. In said vision, the designer is not an omnipotent force imposing his own ideals, but simply someone trying to reach the receiver. However, the designer is not submissive to the receiver or to the "market forces". Their relationship is more akin to a partnership.

#### Aggressive Retsuko Media Mix

Deeming the concept of aesthetic experience as a promising approach to design in a ludo mix, I decided to test it "in practice" following the pragmatist maxim, "Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have" (Peirce 1878, 293). I chose to test it in a pedagogical setting with game design students in a postgraduate course in narrative game design. After presenting the methodological approach, I will discuss the students' reflections concerning Dewey's concept of aesthetic experience.

#### Teaching-Research Nexus

The "teaching-research nexus" approach, where teachers/ researchers explore concepts with their students, is an epistemic position developed in Australia and adopted in French-speaking countries. Jean-Louis Le Moigne (2012) and Nicole Poteau (2015) are fervent defenders of this approach. The central idea of "teaching-research nexus" is to stimulate the connections between scientific research and teaching:

Published work in the field called "the teaching-research nexus" (Stehlik, 2008), mostly in Australia, also explores the link between research and teaching; they are based on the idea that research provides knowledge to teach and that, conversely, teaching fuels research. The two are closely intertwined, in fact, since they are part of the very identity of the university, and also because the exploration of these links raises research questions that are of interest to all the actors of the institution (Poteau 2015, 85, my translation).

The goal is to learn alongside students instead of plainly teaching them. As Poteau explains, "Theory and practice, research and action, teacher-researcher, form couples of concepts most often presented in tension, when not in opposition" (Poteau 2015, 75, my translation). As Poteau points out, two main visions are in conflict: for some, research and teaching are distinct professions that cannot be practiced at the same time. Others, on the contrary, affirm that the professions are complementary. Poteau defends the second position. As such, universities are a place of reflective development for both students (who must put into perspective what is taught to them) and teachers (who must question the ethical value of the knowledge they submit to students). University courses are a space to transmit and reflect on knowledge. Here, teachers are practitioners and researchers at the same time (Schön 1983).

Concepts taught are those that seem most relevant to the issues raised in class, even if they are not perfectly developed (this is in line with Dewey's idea of "warranted assertability"). These concepts are put to the test by students, who point out their limits. From my point of view, students make the concepts come "alive" by studying them: they test their viability in a real-world context. While investigating, students' inquiries involve a certain level of abstraction, making them actors in the scientific process, according to Dewey. Students are not mere guinea pigs, but active participants in the research. As Le Moigne (2012) asserts, a student's appropriation of concepts gives validity to the study. Poteau concludes that "the teacher-researcher nexus considers the student as a partner or collaborator for his own research" (Poteau 2015, 81, my translation).

Implementing this teaching-research nexus is relatively easy in design classes: a lot of the course material is taught through workshops, where students are assigned a project. Thus, it is possible to involve students in "project-grounded research" (Findeli and Coste 2007). Project-grounded research is a form of research *through* design (Frayling 1994, Godin and Zahedi 2014), therefore researchers are expected to participate (in one way or another) in the project. By reflecting during the design project, the researcher produces new knowledge. According to Alain Findeli: "If you want to understand a phenomenon or a concept, put it into a (design) project" (Findeli 2015, 56).

### Collecting Data: Aggressive Retsuko Assignment

In this workshop, nine students were presented with Dewey's concept of aesthetic experience. All of them were first-year students in an advanced program in narrative game design. The course was specifically about the various approaches to game design, and several pragmatist concepts were covered over the semester. For this particular workshop, I asked myself: "Is Dewey's concept of the *aesthetic experience* useful in designing a game for a franchise?"

To avoid any biases on the student's part, data was collected without the students' knowledge (an ethical certificate has been emitted). Once the course was over, students were asked whether or not they wished to participate in the research (those who refused didn't have their data analyzed). Fortunately, all the students in this course agreed to share their data. Since this is a graduate course, a significant portion of participants had jobs as game testers or designers in the video game industry.

The workshop started in class, and the students were asked to work on a media mix inspired by Sanrio's anime *Aggressive Retsuko* (Sanrio 2016) for three hours.

Aggressive Retsuko is considered a musical comedy anime: the protagonist, an anthropomorphic female red panda, works as an accountant in a large Japanese firm; She endures her toxic work environment, but regularly needs to release tension ... by singing death metal in a karaoke bar! Each episode lasts only one minute, and uses music and humor to discuss important themes such as misogyny, harassment, workaholism and social pressure in Japanese society. This particular anime was chosen for its accessibility (the episodes were freely available and very short, therefore easy for students to watch) and singularity: Aggressive Retsuko is a one-of-a-kind experience with distinctive and alluring features. A second season of Aggressive Retsuko has since been

made, with longer episodes, but was not considered in this assignment.

During the workshop, students were regularly asked to stop and think about their actions, in order to explore the usefulness of Dewey's concept. After the workshop, they produced a description of their game (game design document) and a written justification of their choices. Finally, the value of Dewey's concept was discussed in class, as a group discussion, with all the students' designs presented and criticized by the professor.

Data collection was done through participant observation (as teacher of the course) and analysis of the students' works (Jorgensen 1989). I was able to witness first-hand the reflective cycle of the students by questioning them during the workshop. Then, I commented their work individually and organized the final group discussion in class (Davila and Domínguez 2010). I then acted as a facilitator for reflection on the concepts, as the whole class evaluated and discussed Dewey's approach. Only Dewey's concept was presented and discussed (neither Ōtsuka nor Azuma was introduced to the students).

To reiterate, in a teaching-research nexus, the teacher's job is to put certain concepts to the test: while I hoped that Dewey's concepts would prove valuable, their usefulness will ultimately be decided by the students' works.

Results

#### First phase

At first, students transposed elements from the anime into their games in a fairly straightforward manner:

A key element was to keep the contrast between the cute side and the aggressive side of the series. This aspect is demonstrated by Retsuko's quiet façade, which turns into a Death Metal singer when she has too much rage accumulated. The visual aesthetics as well as the music of the game will help create this contrast specific to Aggressive Retsuko (Team 1).

Students then focused on small aspects of the anime that could be paired with game mechanics. They likened Retsuko's rage to a gauge mechanic and her office duties to time management games. I noticed that they used game design patterns they were already aware of, like game genres (time management games) or specific game mechanics (gauge).

Team 3's marketing-oriented mindset was particularly interesting. For them, the game had to somehow incorporate different strategies to make money. It is worth noting that two out of the three members of this team came from the video game industry, and seemed quite confident that media mixing was first and foremost a marketing strategy.

Students proposed a customization game: the player chose outfits for Retsuko in a free to play mobile game, coupled with monetization strategies. The goals of the game were not clear, but the students were nonetheless adamant that customization sells, and that a marketing department (a hypothetical one) would love it. This approach did not engage effectively with the themes of the original anime; in fact, it even encouraged consumerism, which is heavily criticized in several episodes.

At the end of this first phase, the students ended up with "a bunch of mechanics" rather than cogent game systems. When questioned on the subject of aesthetic experience and their design processes, most students appeared very surprised: they had forgotten about Dewey's concept almost entirely. This first part of the workshop served as a form of warm up: very little was achieved in terms of game system development, and the concept of "aesthetic experience" was entirely lost on students. While this might be a sign of the uselessness of the concept, the second attempt proved more fruitful.

#### Second phase: Toward Aesthetic Experiences

Before starting the second part of the workshop, I offered the students a brief reminder of Dewey's theory, and asked them if they had simply forgotten about it, found it useless, or if another approach was needed.

At this point, Team 3 had an epiphany and totally changed direction. They suggested a game structured around mini games, coupled with a rage gauge. Losing mini games fills Retsuko's rage gauge. Once full, the game is over and Retsuko sings death metal in a karaoke bar, alone and frustrated. While this structure might not be the best translation of the anime's core message (as we will see later with Team 2's game), Team 3's strength was in their approach to mini games.

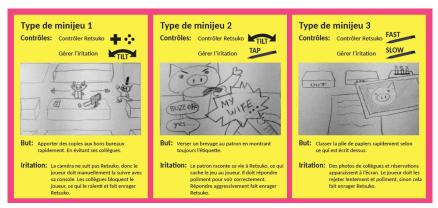


Figure 1: Mini games from Team 3

In Team 3's first mini game, the player has a simple goal: control Retsuko (the avatar) and distribute papers to the designated colleagues' desk. However, the camera does not automatically follow the avatar, so the player has to tilt the console to move the camera (using the gyroscope). To make things even more challenging, the player must avoid other colleagues, who might delay Retsuko in finishing the task on time.

A second mini-game revolves around Retsuko pouring beer for her manager while respecting Japanese etiquette: the beer must be expertly poured, with the label always visible. All this must be done while chatting in a relaxed fashion. The students translated this theme into a mini-game where the player has to tilt the whole console to pour the beer in a glass while simultaneously selecting dialogue options on the screen, which appear on top of the bottle, thus hiding feedback of the pouring.

The last mini-game was purely about reflexes and concentration: players classify documents into three categories as fast as they can. However, pictures of Retsuko's colleagues appear regularly: baby, pets or new lover. These pictures must be pushed away slowly by the player, or Retsuko's colleagues will take offense, which will infuriate Retsuko and end the game.

All these mini-games effectively translate Retsuko's experience as an office drone into gameplay, and this was done consciously by the students. They empathized with the little red panda, and tried to turn her experience into a game. They wrote the following statement (I translated and bolded the text):

She is constantly harassed during work [...] and her defence mechanism is to unload what she has on her heart at karaoke by singing metal; **sequences** that, in the show, are mostly very **strong and aggressive for the person watching.** 

The game will offer an **unbalanced experience** in control, speed, and difficulty in a variety of mini-games. Each part will be **irritating** because of the NPCs, the controls and even the camera.

The **accumulation** of **increasingly difficult and unbalanced** challenges would **reflect the climbing rage of the character** of the series; like her, **the player must suffer** a whole day of **dissatisfaction** and start again next morning; **again and again**.

The TV show's experience was interiorized and reflected upon by the students, who then reproduced it using video game mechanics. They aimed to design a whole and coherent experience for the player, rather than simply frustrate the player gratuitously, and tried to develop a sequence of interactions that would recreate an experience similar to Retsuko's predicament. Each mini game adds to the sum, extending the experience while reinforcing its meaning. The students carefully sought this "aesthetic" (coherent, global) aspect of the experience.

Is Death Metal "Game Over"?

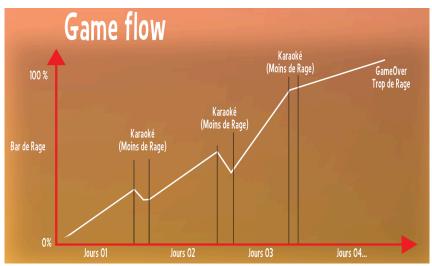
As mentioned earlier on the subject of game structure, Team 2 pointed out a paradoxical aspect of Aggressive Retsuko:

One contradictory aspect is that Retsuko wants to control her mood and avoid any excess of rage, but that's exactly what you want to see as a viewer. So, we tried to design a game that meets both of these needs and avoids the trap of ludo narrative dissonance (Team 2, my translation).

Here, ludo narrative dissonance is synonymous with Dewey's inchoate experience. Contrary to Team 3, Team 2 avoided making the karaoke synonymous with "game over". Instead, karaoke acts as a pressure release valve, which the player is rewarded with after successfully managing Retsuko's rage during the day. However, it is almost impossible to totally empty the rage gauge.

The message of the game is that you will eventually lose, despite your best efforts, which is clearly critical of Japanese workaholic society. We can see how the meaning of the anime is translated through gameplay, even if it goes against standard game systems: the rageful karaoke sequence (usually placed at the end of an episode) does not mark the end of the game, but acts as a reward. It is a moment of relief, humor and dissociation, mimicking the emotions experienced by both the TV show spectator and Retsuko herself.

The game does not elicit a single emotion through simple means, but evokes complex aspects in the form of a cohesive experience that develops over time. Moreover, the game cannot be won, as there is no hope for Retsuko in this company, according to the students. They suggested that Retsuko should find another job. This adds meaning to the media mix, as the original anime did not clearly state anything of the sort: the first season ends with Retsuko having increasingly bad days, but quitting is never seriously evoked. All in all, the students tried to understand the original experience of *Aggressive Retsuko* and implement it in a video game: they led a creative inquiry and aimed for an aesthetic experience.



*Figure 2: Retsuko's rage augmentation (vertical axis is the level of rage; horizontal axis is the number of days) by Team 2* 

#### **Final Debriefing**

During the final debriefing a few weeks after the workshop, the students concluded that their second design attempts would be more coherent and valuable for the franchise. This was made apparent through their design statements and the ensuing group discussion. The students seemed to collectively agree that the concepts of aesthetic experience and wholeness were useful in their approach to game design. Through their assignment on Aggressive Retsuko, students demonstrated how their vision of media mixes evolved over time. At the beginning of the workshop, their ideas were quite similar to Steinberg's *marketing* media mix, and Azuma's database model. Various elements of the anime were pulled apart and stripped of their meaning in order to be recombined into classic game structures, fitting existing genres. However, discussing Dewey's concept with students changed some of their presuppositions.

In the final discussion, students showed that, as game designers themselves, they preferred viewing designers as authors. In the end, students did consider Dewey's idea of aesthetic experience as a transaction between designer and player. By elaborating their games through creative inquiry, students hoped to create coherent and meaningful experiences. I could also assess that they understood the idea of media mixing (versus marketing mixing) better. Once the students got used to the concept of aesthetic experience, it transformed them: they became authors in a ludo mix.

Combining research *through* design and the teaching-research nexus poses several limits. Indeed, the findings are largely comprised of "warranted assertabilities" (Dewey 1938), meaning that the data is not reproducible nor objective knowledge. Instead, the data is the testimony of a situated experiment, the results of which nourish our reflection about examined concepts. I had a moment of doubt when several students overlooked Dewey's approach in their design process. But after the whole exercise was over, I saw that Dewey's "aesthetic experience" – while difficult to grasp at first – provoked tangible changes in the students' approach to franchised video games design.

Moreover, it is worth noting that the results of my experiment were sent for approval to all participants before publication. One of them sent me the following comment by email: As you mentioned, many of us (students) were a little skeptical about the idea of *aesthetic experience* at the beginning of the session, but I recently discussed it with some members of the group and we all had the same impression: at first we did not understand it too well, but once it clicked, it was one of the things that we found most useful in the program! I think it just took us a while to really understand the usefulness of this concept in a real-life context of making video games [...] (student from group 1).

As Jenkins noted in his own courses on transmedia, it is often difficult to show the value of a particular theory to students at first. However, a concrete experience through a workshop can help resolve this issue and reinforce the idea that practitioners can be researchers in their own way:

The key point here is that transmedia needs to be understood as an ongoing conversation between academic theorists and industry practitioners, that many of the key conceptual leaps have been made by vernacular theorists working in the media fields and trying to explain their own practices (Jenkins 2010, 46).

All in all, the Aggressive Retsuko workshop reassured me that comparing Dewey's, Ōtsuka's and Azuma's visions could indeed be fruitful.

# DISCUSSION AND CONCLUSION

I will now discuss my results using Ōtsuka's and Azuma's vision of the ludo mix, and explain why Dewey's aesthetic experience is a useful concept for game designers.

Dewey's vision of authorship is similar to Ōtsuka's, where authors express greater meaning through "grand narrative" and aim for "narrative consumption". What differs from Ōtsuka's theory is the scope: Dewey does not talk about a "narrative" consumption experience, but a whole and multifaceted one. Theories on the subject of ludo mixing and transmedia storytelling have been focused on narrative aspects. While Ōtsuka is occupied with the "story", Steinberg and Azuma focus on characters. My research does not aim to reactivate the debates between narratologists and ludogologists, but the question of "narrativity" remains problematic: focusing mainly on story might be a source of difficulty in designing games. The concept of aesthetic experience could be a better introductory point for game designers, as it encompasses other aspects of design, besides story. A ludo mix ought to be seen as a "grand experience" instead of a "grand narrative".

Concerning Azuma's work, the results contradict his vision: in the end, a well-rounded and whole vision, coupled with a "message", was a better source of inspiration than disconnected patterns. However, Azuma mostly criticized Ōtsuka on postmodernist grounds. For Azuma, the very idea of a grand narrative referred to the ideological rigidity of modernism and its supposed single truth or hidden common denominator. He often references the French philosopher Lyotard, who declared that postmodernism is the end of "grand narratives". As Steinberg already stressed: "Azuma's mistake is to collapse Lyotard's and Ōtsuka's uses of the term grand narrative, starting him off on the wrong foot" (Steinberg 2012, 254). Indeed, Ōtsuka's definition of the "grand narrative" does not contain any reference to ideological modernism. As Steinberg noted, Ōtsuka always had different worldviews and numerous narratives running in parallel.

Nevertheless, Azuka's postmodern criticism is interesting: it would indeed be unfortunate to return to a modernist vision of ludo mixes. However, his postmodernist criticism led him to a view of consumption that might be depressing for game designers. Dewey is also considered a postmodernist, but he does not fall into this trap. As Larry Hickman pointed out:

If the end of the grand narrative means recognition of the futility of attempts to build metaphysical systems such as those constructed by Hegel and Marx, systems that attempt to encompass everything, then Dewey was already a card-carrying postmodernist more than a century ago (Hickman 2007, 17). According to Hickman, Dewey's postmodernism rejects the idea of a system that encompasses everything, but still believes that there is a commonality in human experiences. By using the concept of aesthetic experience, human beings can reconstruct the experiences of one another, even if the results aren't exactly the same. They conduct an inquiry, building meaning progressively. This is the type of pragmatist inquiry that students made in order to organize the mechanics with which to reach their players. It is also through inquiry that players will discover the meaning conveyed by the designers. Thus, despite being a postmodernist, Dewey's vision offers a framework to understand human experiences globally and guide game designers in their practice as "authors" in a ludo mix.

However, this pragmatist stance also raises questions for game designers: can they design in a ludo mix if they have no interest in the original experience? How can they design if they don't have a personal aesthetic experience with a media franchise? Is it even ethical to work on franchises when one does not truly want to share their experience with others?

To conclude, by reframing ludo mixes within the context of Dewey's aesthetic experience, this paper suggests a point of view that is somewhat different from Ōtsuka and Azuma's. In fact, by using pragmatist philosophy, I slightly displaced the focus: I shifted ludo mixes from a consumer experience (in marketing terms) to a consumption experience (in philosophical terms). By doing so, I suggested affirming the importance of designers (not only receivers). In a pragmatist view, game designers conduct an inquiry in order to create a "grand" experience for their players.

While pragmatist philosophy might seem intimidating, it can be an opportunity to develop a new approach to ludo mixes, where video games are at the heart of meaningful experiences. Each new addition to the mix should add cohesiveness to the overall experience and avoid shattering what has already been constructed. The goal is not to overstretch intellectual property, but enrich it; It's all about well-rounded experiences. To reconcile franchises, marketing and players, game designers might want to see the ludo mix as a pragmatist aesthetic experience.

Finally, I would like to emphasize that this study was an attempt at bridging the gap between Western and Japanese theories of video game creation and design. To build a richer vision of game designers' activities, I hope that more translations of Japanese research on game design will become available.

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#### BIBLIOGRAPHY

Azuma, H. (2009 [2001]). *Otaku: Japan's database animals*. Minneapolis, MN: University of Minnesota Press.

Biesta, G., and N. Burbules. (2003). *Pragmatism and educational research*. Lanham, MD: Rowman & Littlefield.

Björk, S., and J. Holopainen. (2004). *Patterns in Game Design*. Rockland, MA: Charles River Media.

Bratkowski, T. (2010). "Applying Dewey's Aesthetics To Video Games: An Experience of "Rock Band"." *Soundings: An Interdisciplinary Journal* no. 93 (1/2), pp.83-93.

Brookey, R. A. (2010). *Hollywood gamers: Digital convergence in the film and video game industries*. Bloomington, IN: Indiana University Press.

Carù, A., and B. Cova. (2003). "Revisiting consumption experience: A more humble but complete view of the concept." *Marketing theory* no. 3 (2), pp.267-286.

Chiapello, L. 2013. Formalizing casual games: A study based on game designers' professional knowledge. In *2013 Digital Games Research Association Conference: DeFragging Game Studies*. Atlanta, GA.

Chiapello, L. (2017). "Epistemological Underpinnings in Game Design Research." In *Game Design Research: An Introduction to Theory & Practice*, edited by Petri Lankoski and Jussi Holopainen, 15-33. Pittsburgh, PA: Carnegie Mellon University ETC Press.

Chiapello, L. 2019. *Le pragmatisme comme épistémologie pour le design de jeux Enquête sur la créativité et le processus de design*. Thèse de doctorat, Faculté de l'Aménagement, Université de Montréal, Montréal.

Chiapello, L. (2020). "A pragmatic inquiry on creativity." In *Handbook of Research Methods on Creativity*, edited by Viktor Dörfler and Marc Stierand, 152-164. Cheltenham, UK: Edward Elgar.

Cross, N. (2001). "Designerly ways of knowing: Design discipline versus design science." *Design issues* no. 17 (3), pp.49-55.

Dalsgaard, P. (2014). "Pragmatism and design thinking." *International Journal of Design* no. 8 (1), pp.143-155.

Davila, A., and M. Domínguez. (2010). "Formats des groupes et types de discussion dans la recherche sociale qualitative." *Recherches qualitatives* no. 29 (1), pp.50-68.

Deen, P. D. (2011). "Interactivity, inhabitation and pragmatist aesthetics." *Game Studies* no. 11 (2), pp.188-200.

Dewey, J. (1938). *Logic: The theory of inquiry*. New York, NY: Holt, Rinehart and Winston.

Dewey, J. (1958 [1925]). *Experience and nature*. New York, NY: Dover Publications, Inc.

Dewey, J. (1980 [1934]). *Art as experience*. New York, NY: Perigee books.

Findeli, A. (2015). "La recherche-projet en design et la question de la question de recherche : essai de clarification conceptuelle." no. 1 (1), pp.45-57.

Findeli, A., and A. Coste. (2007). "De la recherche-création à la recherche-projet: un cadre théorique et méthodologique pour la recherche architecturale." *Lieux communs* no. 10, pp.139-161.

Frayling, C. (1994). "Research in Art and Design." *RCA Research Papers* no. 1 (1).

Gallarino, A. (2013). "Jenkins Reloaded: évolution de la pensée d'Henry Jenkins de Textual Poachers à (l'avant) Spreadable Media." *Terminal. Technologie de l'information, culture & société* (112), pp.115-120.

Game Freak (1996). *Pokémon*, [Game boy]. Nintendo. Kyoto, Japan: played december 1999.

Godin, D., and M. Zahedi. (2014). "Aspects of research through design." *Proceedings of DRS 2014: Design's Big Debates*, pp.1667-1680.

Hartzheim, B. H. (2016). "Pretty Cure and the Magical Girl media mix." *The Journal of Popular Culture* no. 49 (5), pp.1059-1085.

Hickman, L. A. (2007). *Pragmatism as post-postmodernism: Lessons from John Dewey*. New York, NY: Fordham University Press.

Hildebrand, D. (2008). *Dewey: A beginner's guide*. London, UK: Oneworld Publications.

Hunicke, R., M. LeBlanc, and R. Zubek. (2004). MDA: A formal approach to game design and game research. Paper read at AAAI Workshop on Challenges in Game AI, Nineteenth National Conference on Artificial Intelligence, 25-26 July, at San Jose.

Jenkins, H. (2006). *Convergence Culture: Where old and new media collide*. New York, NY: New York University Press.

Jenkins, H. (2010). "Transmedia storytelling and entertainment: An annotated syllabus." *Continuum* no. 24 (6), pp.943-958.

Jorgensen, D. L. (1989). *Participant Observation*. Thousand Oaks, CA: Sage Publications, Inc.

Karhulahti, V.-M. (2014). "Fiction puzzle: storiable challenge in pragmatist videogame aesthetics." *Philosophy & Technology* no. 27 (2), pp.201-220.

Keogh, B. (2018). *A Play of Bodies: How We Perceive Videogames*. Cambridge, MA: MIT Press.

Koge-Donbo. (1998). *Di Gi Charat*. Tokyo, Japan: Broccoli Books.

Kuittinen, J., and J. Holopainen. 2009. Some notes on the nature of game design. In *2009 DiGRA Conference: Breaking New Ground*, edited by Tanya Krzywinska, Helen Kennedy and Barry Atkins. Brunel University, London.

Kultima, A. 2015. Game Design Research. In *AcademicMindTrek* '15. Tampere, Finland.

Lankoski, P., and J. Holopainen, eds. (2017). *Game Design Research: An Introduction to Theory & Practice*. Pittsburgh, PA: Carnegie Mellon University ETC Press.

Le Moigne, J.-L. (2012). *Les épistémologies constructivistes* « *Que sais-je?* ». Vol. n°2969, *Que sais-je?* Paris: Presses universitaires de France.

Leddy, T. 2014. Dewey's Aesthetics. In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. Online.

Melles, G. (2008). "An enlarged pragmatist inquiry paradigm for methodological pluralism in academic design research." *Artifact: Journal of Design Practice* no. 2 (1), pp.3-13.

Motive Studio (2017). *Star Wars: Battlefront II*, [PC]. Electronic Arts. Redwood city, CA: played May, 2019.

Nakamura, A., and S. Tosca. 2019. The Mobile Suit Gundam Franchise: A Case Study of Transmedia Storytelling Practices and the Role of Digital Games in Japan. In *DIGRA 2019 Kyoto: Game, Play and the Emerging Ludo-Mix*.

Ōtsuka, E. (1989). "Monogatari shōhiron [A Theory of Narrative Consumption]." *Tokyo: Shinyosha*.

Ōtsuka, E., and M. Steinberg. (2010). "World and variation: The reproduction and consumption of narrative." *Mechademia* no. 5 (1), pp.99-116.

Patrickson, B., and S. Young. (2013). "The Transcultural Transmedia Media Mix." *The Journal of American Studies of Turkey* no. 33, pp.43-65.

Peirce, C. S. (1878). "How to Make Our Ideas Clear." *Popular Science Monthly* no. 12 (January), pp.286-302.

Picard, M., and J. Pelletier-Gagnon. (2015). "Introduction: Geemu, media mix, and the state of Japanese video game studies." *Kinephanos: Journal of media studies and popular culture* no. 5, pp.1-19.

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Poteau, N. (2015). "De la recherche-action à la pédagogie universitaire: une démarche pour articuler enseignement et recherche." *Les dossiers des sciences de l'éducation* (34), pp.75-90.

Rollings, A., and D. Morris. (2004). *Game architecture and design: a new edition*. Indianapolis, IN: New Riders.

Sanrio. (2016). *Aggressive Retsuko*. Anime by Fanworks Rareko (dir).

Schön, D. A. (1983). *The Reflective Practitioner : How Professionals Think in Action*. New York: Basic Books.

Square Enix (1987). *Final Fantasy*, [NES]. Square Enix. Tokyo, Japan: played june 1992.

Steinberg, M. (2012). *Anime's media mix: Franchising toys and characters in Japan*: Unniversity of Minnesota Press.

Steinberg, M. (2015). "8-Bit Manga: Kadokawa's Madara, or, The Gameic Media Mix." *Kinephanos: Journal of media studies and popular culture* no. 5, pp.40-52.

Sudnow, D. (1983). *Pilgrim in the Microworld*: Warner Books New York.

Sweetser, P., and P. Wyeth. (2005). "GameFlow: a model for evaluating player enjoyment in games." *Computers in Entertainment (CIE)* no. 3 (3), pp.1-24.

Swink, S. (2009). *Game feel: a game designer's guide to virtual sensation*. Burlington, MA: Morgan Kaufmann.

White, M. M. (2009). "The senescence of creativity: How market forces are killing digital games." *Loading* no. 3 (4), pp.1-20.