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## Research-creation methodology for game research

Edwige Lelievre<sup>1</sup>

Université de Versailles Saint-Quentin-en-Yvelines

### Introduction

As the academic field of game research is getting structured, methodologies are being better defined, as testified by the publication of the book *Game Research Methods* (Lankoski & Björk, 2015). This book did not claim to exhaustivity, though it covered a vast range of methodologies.

If creating games is relatively common amongst game scholars, the methodologies supporting this approach are rare. Notably, the methodology commonly used in French art departments, “research-creation,” was absent in the book. After discussing the matter with several game researchers, I realized that this methodology is almost only intentionally used by French-speaking scholars, as the description of this methodology has not been popularized to the English-speaking community<sup>1</sup>. Some English-speaking researchers use relatively close methodologies, practice or design-based research, but could benefit from the specificities of research-creation, a precisely defined research methodology from the art discipline.

As a young scholar, I used to consider methodologies were justifications of obvious approaches, which were only necessary because art was questioned as a scientific discipline and

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<sup>1</sup> Centre d’Histoire Culturelle des Sociétés Contemporaines, Université de Versailles Saint-Quentin-en-Yvelines, France

video games were questioned as a medium in universities' art departments. By exploring them, I began to consider methodologies, including research-creation, as fascinating tools.

Douyère, an information and communication scholar, defined the method used by researchers as such: “Also, the method might be, finally, a specific way of being sensitively aware of the terrain or the studied object. An attentiveness, a way of listening, of being caught by surprise, to capture the unexpected and unpredictable, to create links between different things, of not being locked in a method.”(Douyère, 2014) Following Douyère, I consider methodological reflection should not be a strict set of constraints, but instead a tool, full of potential for scholars.

The objective of this paper is then to explain research-creation methodology to English-speaking game scholars, to describe its specificities, benefits, and limits for video game medium, as well as offering a step-by-step guide to research-creation. Through this description and analysis, I also intend to question other methodologies limits and how research-creation can be a complementary approach.

### **Presentation of research-creation methodology**

Research-creation is a type of methodology that artist-researchers use in academia. It has been used both with traditional art forms as well as digital arts, especially in Québec, Switzerland, and France, with, for instance, photography (Annis, 2014), dance (Massiani, 2011), theatre (Martz Kuhn, 2013), and visual arts (Brandon, 2016).

#### *Consensus on research-creation*

The definition of this methodology is still discussed, but a consensus has been reached on certain defining aspects:

1. The creation must be conducted with initial research questions in mind.

2. Research-creation involves the creation of an art piece that can be exhibited. This means the art piece created should not always be complete, but there must be a prototype at least.

3. It is a qualitative and inductive methodology, as the results are based on expanding from particular cases.

4. The research project must be conducted alongside with a state-of-the-art study and an inscription in the history of arts.

5. Research-creation is not aesthetics. Consequently, research-creation is not the study of an art piece from an external perspective, even if aesthetics can be used with research-creation as part of a mixed methodology.

This consensus is based on the following publications: *La Recherche Création : Pour Une Compréhension de La Recherche En Pratique Artistique* (Gosselin & Coguiec, 2006), *Traiter de recherche création en art : Entre la quête d'un territoire et la singularité des parcours* (Bruneau & Villeneuve, 2007), *Pratiques Artistiques et Pratiques de Recherche* (Danétis & Collectif, 2007) and “Research-Creation” (Chapman & Sawchuk, 2012)

#### *Related methodologies and necessity of a precise definition*

If methodologies are intended as a tool for researchers in general, research-creation was also used by some art scholars as a justification to prove that are doing something “serious” and that their work belongs to science, as art departments opened in universities. This search for recognition might yet have been dangerous and have prevented researchers from using the full potential of this methodology, as explained by Chapman and Sawchuck:

“Suggesting that research-creation can pass through credibility tests stemming from sanctioned metrics for qualitative research programs reads as a form of apologetics. It may be necessary, for strategic reasons, to work with previously existing frameworks of assessment, but

defining research-creation as a subcategory of qualitative or ethnographic research risks misrepresenting the field and its potential to generate new forms of knowledge.” (Chapman & Sawchuk, 2012)

According to them, research-creation is related to several methodologies, for which they claim family resemblances. Though these other methodologies share many similarities, they do not seem to be as precisely defined or widely accepted in academia as research-creation is in French-speaking countries.

It seems that the search for a precise definition of this methodology has been driven, not only by the need for a practical research tool or academic recognition as for other practice-based methodologies but by financial need instead. Indeed, Québec government is offering specific funding for research-creation (Chapman & Sawchuk, 2012). Selecting the projects required consensus on what project could fall in that category and what could not, which generated discussion on that methodology and its limits (Stévanec, 2012).

If the need for precise definition might not have been scientific or art related at first, it had the advantage of clarifying an otherwise common but vague methodology among art scholars.

Besides the consensus presented before, the methodology of research-creation is not monolithic. As these variations can be particularly meaningful, we will now describe some of the most important of them.

### *Publishing papers or not*

As for any scholars, sharing knowledge resulting from their research is a necessity for artists in academia (Laurier, 2006). The actual question for artist-research relies in the form of this result sharing. Some argue that publishing peer-reviewed papers is of paramount importance,

whereas some others would consider that artworks could be sufficient results in themselves, with no need for written explanations, as long as they have been peer-reviewed or recognized by cultural institutions.

French academic institutions, like the CNU 18, a board of tenured researchers for the arts at the national council of the universities<sup>2</sup>, have recognized this approach by counting the art exhibitions of an artist-researcher as a scientific production with the same value as peer-reviewed papers.

### *Autopoïetics or not*

The other main divergence is whether the analysis should focus on the creation process of the art piece by its author, which is called *autopoïetics*<sup>3</sup>, or not. *Autopoïetics* is related to both autoethnography (Fortin, 2006) and *autoheuristics* as the researcher studies both the cultural implications and the experience of creating an art piece.

The methodology of research-creation seems indeed particularly adapted to studying the creation process as the researcher has first-hand knowledge of it.

If *autopoïetics* is a very widespread form of research-creation, it is important to note that is not systematically used and that research-creation projects can as well result in knowledge of the object itself rather than on its creation process.

### **Research-creation for video games: appropriate questions**

In this section, we will discuss how this methodology could be applied to video games, with its benefits and limits. If we take the common defining components of research-creation and try to apply them to video games, it looks important to discuss what questions this methodology could allow to answer for this medium.

*The “How” and the “Why”*

The creation process of games seems to generate much interest, as shown by the popularity of post-mortems (‘Gamasutra, Post-Mortems’, 2018). They allow a glimpse at the “how” and “why” of games indeed. These testimonies are fascinating, but they often lack the rigor of analysis and scientific objective of research.

On the other side, a large part of game research currently relies on analysing the game itself and player reception. These methodologies are sometimes used to understand the “how” and the “why” of the games, but the risk of being misled is very high as game or reception analysis will not give the researcher first-hand access on neither the process nor the creator’s state of mind.

An experimental game design could be interesting for understanding the “how” as it offers this insider’s view along with scientific rigor. This methodology generally uses controlled experiments and relies on user testing of the created games with a systematic approach (Waern & Back, 2015). But, by focusing on usability, this methodology hides the artistic aspect of creation and video games specificity, as defended by Khaled et al (Khaled, Lessard, & Barr, 2018).

Poïetics (Passeron, 1975), the science of art in the making, on the other hand, aims at understanding the artistic process rather than on the usability of the final object. It focuses on the “dynamic relationship uniting an artist and her work” (Le Coguiéc, 2007). This methodology could be very interesting for video games, but it is more complicated to apply poïetics for the study of video games than for painting.

The difficulty originates from the fact that video games creation process is profoundly hidden. Indeed, most commercial games are now protected by non-disclosure agreements. They

highly complicate access to creation material like log books, steps of game design, or intermediate versions of the game.

Besides, video games' creation process is now used as a marketing tool, even for independent creators. Given that the game industry is a competitive market, the developers can hardly be transparent with their creation process, whereas an intention of objectivity is essential for scholars. For instance, in exhibitions (Foulston & Volsing, 2018), it is rare to see documents from the creation process that didn't make it into the game final's version, and generally anything proving that something might have gone wrong during the game's production.

Hence, research-creation with *autopoïetics* might be an appropriate methodology for understanding the video games' "how" and the "why", in other words to provide insider view of video games creation process with a goal of objectivity.

*Examples of video game projects using research-creation with autopoïetics*

Rémy Sohier, French scholar and founder of art collective Alineaire ('Alineaire', n.d.), based his PhD thesis (Sohier, 2016a) on this methodology. For instance, the video game *Fuir la guerre* (Sohier, 2016b) (*Figure 1*), allowed him to discuss the creation of a game whose core theme was migrations: "How the game, even if it is seemingly focused on immersion can offer an interesting experience while forbidding immersion? What mediation can be considered between the life story of a migrant and the life story of a player?" (Sohier, 2016b).



Figure 1. Picture of the video game installation *Fuir la Guerre* presented at Vaclav Havel library, Sohier and Morawski, Paris, 2015.

One of the few English-speaking scholar currently using research-creation is Pippin Barr. He did a PhD on *Video games Values* in 2008 that didn't involve any game creation (Barr, 2008) but began creating his games in 2011 (Grenier-Millette, 2013). He is now officially using (Sylvestre, 2017) and defending (Barr, 2018) research-creation since he joined Concordia University, Canada, where he is co-leading the “Technoculture, Art and Games” research laboratory, that uses research-creation as its primary methodology.

Research-creation is also one of the methodologies used for the projects of video games *Delta Lyrae 6* (Lelièvre, 2014), *Les Mystères de la Basilique* (Groupierre & Lelievre, 2013) or *OFabulis* (Lelièvre, 2015). For example, in the research presented at Digra 2015 on *OFabulis*

(Figure 2), I tried to examine the creation process of video games to promote cultural heritage: “One may wonder whether there is a specific creation process when it comes to video games promoting historical monuments.”

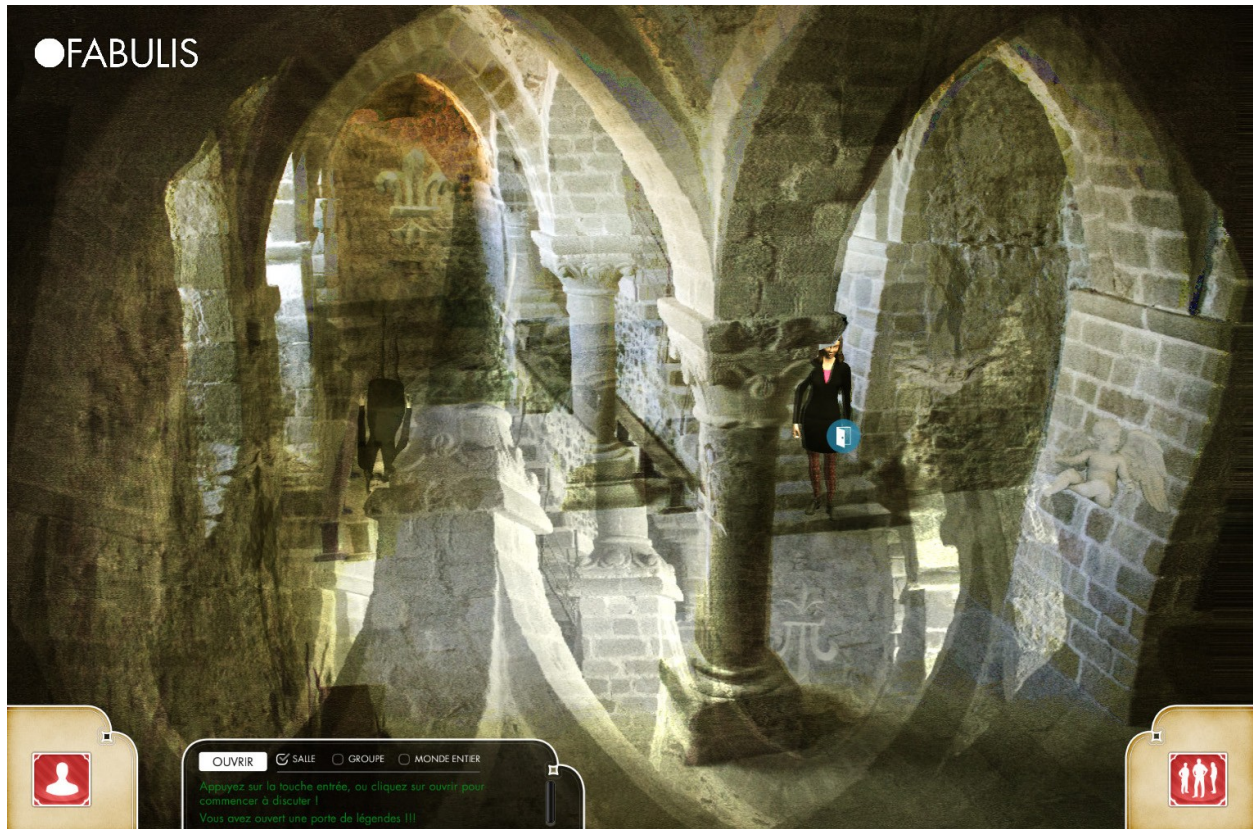


Figure 2. Screenshot from the game OFabulis, legendary world of the Mont-Saint-Michel, Lelievre, online, 2014.

### *The “What” questions and the critical aspect of video games*

In addition to the questions of “How” and “Why” for which research-creation seems particularly appropriate, this methodology could also be used to answer some of the questions about “What” video games are and what we can learn from them on a more theoretical level and offer a critical perspective on this medium. As research-creation is an inductive methodology, it might be related to grounded theory (Hook, 2015) when using this approach. The difference is that the theory, here, would be mainly based on the practical experience of the authors, yet still grounded in art and video games history.

For instance, Canadian researcher Jonathan Lessard created several games based on natural language interaction with a research-creation approach (Lessard, 2016a), like *A Tough Sell* (Lessard, 2015), and used them to develop the concept of “conversational puzzles” (Lessard, 2016b).

It is interesting to note that several video games researcher and indie developers use a very similar approach to research-creation. Jenova Chen, Bennett Foddy, Nina Freeman, Robert Yang, Julian Hiriart, Sébastien Genvo or Tim Rogers are indeed creating video games with specific questions in mind, that could very well be considered research questions. It looks like the first significant difference between them and research-creation scholars is that these creators generally don't claim their productions belong to the art field, even if their works are both personal and expressive. The second difference is that their methodology has been made up intuitively without a conscious reflection on the creation act in a research process which might complicate the analysis afterward.

### *Bias, limits and potential*

Like any methodology, research-creation is not devoid of bias. The first issue directly derives from its art field inscription. Using this methodology for video games requires us to presuppose that video games as a medium is could be an art form, which could be discussed. However, it seems that video games have been accepted both in museums (Maeda, 2012) and in universities' art departments, so we can safely consider that this question of definitions should not prevent scholars from using this methodology anymore.

Considering video games as an art form also means that the results will not be easily reproducible, because art creation and reception are highly context and reception-dependent. Therefore, generalizing the results is not as easy as it is for research-by-design. They might still

give a different and compatible insight as not considering video games as art might also be biased, by ignoring games creators' personal motivations for instance.

The second issue seems more problematic: academic games could hardly relate to AAA games in term of scale. By consequence, it is imperative to take this limit into account when comparing and trying to expand research-creation results.

Research-creation, by embracing the fact that video games are art pieces, seems to allow a radically different approach to the “how”, while trying to understand the “why”, by focusing on the creators' state of mind and the uniqueness of games. This methodology also a different way to question the medium's limit.

Besides, using this methodology, especially as autopoietics, encourages a systematic archiving of the video game's creation documents. Afterward, the documents can be used by more than the researcher who created the project for analysis in poietics or historical approach. Moreover, this archiving behaviour is rare in game production and the archiving processes developed by research-creation scholars could be used even by AAA video game companies to preserve their cultural heritage better, in the hope that NDA can be lifted for research purposes.

### **Best practices for research-creation of video games in five steps**

By offering best practices advises, I do not intend to police research-creation but to share elements that seems particularly helpful according to literature revue, discussions with other scholars using it, and my own experience. As each project is unique, it is essential to adapt it and eventually use other methodology in conjunction as well.

A research-creation approach to video games can be based benefit of other art fields experience, especially for the research question and the archiving process. However, some

elements are specific to the media of video games and need to be considered as they might pose practical issues, like the technological aspect of video games. Moreover, there are also theoretical obstacles: more than other arts recognized by universities' art departments since decades like painting and cinema, video game research-creation scholars need to defend the status of video games as an art form, because it is still a new media from the point of view of the institutions. It generally implies a stronger inscription in art history or contemporary arts than for other art fields.

The following research-creation step by step description concern this methodology alone, with an autopoïetics approach.

*Step one: the research questions*

The first step is to find one or several research questions that can be answered better or more easily by creating a specific video game rather than by studying existing ones. These questions are not meant to be the final ones that will be uses in papers or thesis, but they are meant as a guide (Beaud, Gravier, & Toledo, 2006). Before creating, a state-of-the-art study can be useful to feed the artist, but it is not necessary for the researcher considering the inductive quality of this methodology (Bruneau & Burns, 2007).

*Step two: creation and documentation*

The second step is to create the video game while documenting the creation process and archive as much content as possible. For instance, the artist-researcher can create a log book including feelings and what is happening in her or his everyday life during the creation process, keeping all the drafts, design documents, emails, intermediate versions of projects and builds, doing screenshots, videos, and recording meeting when possible. It is also important to date, label, and organize these documents in order to make the following analyze easier. Getting in

touch with academic librarians prior to the project might also be a good idea as they are archiving specialists and can be useful allies for this step.

*Step three: detachment*

For the artist-researcher, the third step is to distance from its work. This stage is often disregarded in the current academic atmosphere of competition, with researchers being pushed to publish fast, but it is particularly important.

When the video game has been created and released, it is indeed better not to rush and to do something different. The objective is to separate the moments of expressions and evaluation. As stated by Danétis discussing the relationship between expressive and critical behaviours, analysing while creating could be a source of paralysis for the research-creation scholar: “What paralyses our imagination could probably be reduced to one cause: our difficulty in combining two completely antinomic worlds and still essential for the functioning of our creation potential.” (Danétis, 2010)

Moreover, analysing one’s own work requires distance for the sake of scientific objectivity. On a personal level, it is also safer, as creation can be a painful process. It is more comfortable to revisit a work when the emotions have cooled down. The duration of this step depends on the creation process length and the emotional involvement of the artist-researcher.

While this separation is particularly crucial in research-creation, it is also important in other social and human sciences, as noted by Douyère and Le Marec: “The body of the researcher is its tool. This “implication” of the self, in the relationship, produces knowledge, and he must then untie this relationship produces by the tool he is, in this research.” (Douyère & Le Marec, 2014)

*Step four: analysis*

The fourth step is to analyze. It is possible to analyze the video game created, the creation process documents, or both. While doing so, it is useful to keep in mind related video games and art history, as they are also interesting detachment tools and will inform the analysis. If the creation process didn't raise new questions, it is very probable that the analyze will. It could be a sign that an interesting result has been uncovered, so it should be considered desirable rather than be rejected, even if it makes the initial questions partially irrelevant. The initial questions are still important as they were part of the intentions. It is also important not to disregard failures, as they can be interesting to other scholars and other video games creators if the analyses allowed to suggest hypotheses on why such failures happened.

*Step five: sharing the results*

The last step is to share the results of the analyses. As discussed previously for research-creation in general, the purpose of a scholar is to increase the knowledge of its field, but, whatever the quality of the results, they are not worth much if the new knowledge is not shared.

Artists outside of literature are not always very keen on writing, as it is not always their favourite medium of expression, but sharing research results can also be oral, through conferences or workshops for instance.

These results can also be shared through games themselves, presented in exhibitions or on digital media. If some games are both the research project and its result, it is also possible to imagine creating a separate game to discuss the result of a research project.

The online journal G|A|M|E published in 2016 a special edition "Games on Games. Game design as critical reflexive practice" (Caruso, Fassone, Ferri, Gualeni, & Salvador, 2016) in which readers were invited to both read and play. The experimental and satirical video game

*Games Studies/Études du Jeu* by Barr and Lessard (Barr & Lessard, 2016) is a more radical example of a video game being used to share concepts without traditional academic explanations.

According to Lancri, fine arts can express critical discourses through their own medium. (Lancri, 2006) If we consider video games, including experimental ones, as art, they then should also be considered for their political value, as another tool for researchers to express a critical stance not only towards video games, but also toward society more generally.

The outreach of video games, even experimental, is generally way larger than traditional peer-reviewed papers for the general public, but they might not be as recognized by other scholars and institutions. It is possible to imagine more regular peer-reviewed video games venues as G|A|M|E did, even without accompanying papers, but traditional research papers might still be necessary, especially in order to share research results to scholars outside of art discipline.

### **Conclusion**

As noted by Salen and Zimmerman, “Games are as complex as any other form of designed culture; fully to appreciate them means understanding them from multiple perspectives.” (Salen & Zimmerman, 2003, p. xiv) Consequently, studying them requires multiple methodologies as well. In this paper, I tried to demonstrate the possibilities offered by research-creation methodology. The questions of video games creators’ intentions, of creation process and of video games limits as a medium all seems relevant topics to be studied with a research-creation methodology.

This precise, but always adaptable tool, that research-creation methodology is could be useful for numerous video games researchers, even outside of art discipline, who currently create

video games without being able to include these creations into their research. Beyond the academic legitimacy offered by a recognized methodology, research-creation can be helpful as a guide to artist-researchers in the quest for objectivity and shareable knowledge, in the same way that it has helped artists-researchers in other art fields to build their methodologies.

This methodology also questions the way we share our research results between video games researchers and to the general public.

The way we publish scientific papers today is not very different from what was done during 19th century, namely black and white printed papers. Indeed, even including coloured images on printed journals is still complicated. In online journals, coloured images are not much of an issue anymore. On the other side, embedding videos, html5 games or excerpts is still very complicated, whereas it is technically possible, and even if most video games exhibitions now present playable video games.

Not offering playable games in our paper might reduce our audience, but it can especially be dangerous on a scientific level as we are discussing interactive multimedia with conservation issues. Art historian Michel Pastoureau stated that the lack of colours in reproductions of medieval paintings in research books created a considerable bias in academic art history because historian disregarded the colour parameter (Pastoureau, 2012) although the symbolic of colours was very important in the Middle Ages (Pastoureau, 2004). For video games, the bias caused by the lack of interactivity and multimedia experience could be even more significant. As such, the reflection on how we talk about our medium should not be disregarded and seems worth exploring. It is indeed desirable for academic journals to consider this option as well.

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### Footnotes

<sup>1</sup> The only paper describing this methodology in English is Research-Creation: Intervention, Analysis and “Family Resemblances” (Chapman & Sawchuk, 2012). Both researchers belong to Concordia University, an English-speaking University of Québec, French-speaking province of Canada. As explained in their paper, research-creation methodology allows obtaining specific funding in this province.

<sup>2</sup> Extract from the website of the CNU 18 website (<http://www.cpcnu.fr/web/section-18/conseils-generaux>), retrieved on November 9th, 2016: “Scientific production can include artistic creations and exhibition curating related to research.” In French: “La production scientifique peut inclure les réalisations artistiques et commissariats d'exposition liés à la recherche.” All translated quotes from French to English are by the author of this paper.

<sup>3</sup> This term has been defined in Éric Le Coguiec in “Démarches de recherche et démarches de création,” (Le Coguiec, 2007). Le Coguiec based his definition on Conte, 2001. The term derives from poïetics, the science of art being made, in French “art en train de se faire”. Autopoïetics would be the study of the creation process of an art piece by its creator.