

# Research on the Cultivating Mechanism of Pokémon Franchise Core Games

Dongcan Yang\*

Maynooth International Engineering College, Fuzhou University, Fuzhou, Fujian Prov-ince, 350108, China

**Abstract.** Since the birth of Pokémon in 1996, after 27 years of development, it has become the world's second hottest-selling series of video games and is highly influential worldwide. As a role-playing game, the game encourages players to keep exploring, meet more Pokémon, and become league champions through Pokémon battles. The game revolves around four core elements: collecting, cultivating, exchanging and battling. This study will focus on the cultivating mechanism of the Pokémon game and explore the specific mechanism and implementation of the Pokémon cultivating gameplay in the game. As a benchmark in the industry, the cultivating gameplay of Pokémon games has been very mature, and the study of its specific mechanics is indicative of related games. This study observes and analyzes the Pokémon ability cultivation, Pokémon offspring cultivation, and Pokémon interaction in three directions: the way players participate in Pokémon cultivation, the results of cultivation, and the experience players get. After analysis, this study specifically divides the Pokémon cultivating gameplay into three aspects: ability training, offspring nurturing and emotional cultivation, and summarizes the specific mechanisms and related impacts included in each aspect and gives opinions on development.

## 1. Introduction

Pokémon is a series of games developed by GAME FREAK and published by Nintendo. The first work in the series was released in Japan on February 27, 1996, and an overseas version was launched later, which was released in other parts of the world. The success of the first work in the series laid the foundation for the subsequent core games of the series and established the iconic release model of the Pokémon series: the core game is usually released in two versions, each with only minor differences. Up to now, Pokémon has a history of 27 years. The series of core games released on Nintendo handheld game consoles have nine generations, as well as derivative works released on various platforms, totaling more than 100 works. Games, cards, animations, movies, comics, toys and other elements form a huge network. The Revenue of selected media franchises worldwide released by Statista in August 2021 shows that Pokémon ranks first with a revenue of more than \$100 billion, it surpassed the second place Hello Kitty (\$84.5 billion), becoming the most valuable media franchise in the world [1]. As of March 2022, the cumulative shipments of Pokémon-related games exceeded 440 million. As of the end of December 2022, the sales volume of Pokémon Scarlet and Violet, the latest work in the series released on November 18, 2022, exceeded 20.61 million. Pokémon has become the second best-selling series of video games in the world,

second only to Nintendo's Super Mario, and is one of Nintendo's most influential series of games in the world.

The overall idea for the Pokémon game comes from producer Tajiri Satoshi's childhood favorite of collecting insects. Pokémon World is a fantasy world based on the real world, and the game builds a utopia where Pokémon and humans live together. Pokémon is a collective term for creatures that live with humans in the Pokémon world. As of now, according to the National Pokédex, there are a total of 1010 species of Pokémon from #0001 Bulbasaur to #1010 Iron Leaves. Many Pokémon have abilities beyond those of real-world creatures, and each Pokémon is also given different attributes. The main series of the game is composed of role-playing games, and the game revolves around four core elements: collection, cultivation, exchange, and battle. Players will play Pokémon trainers with the goal of earning Pokémon Gym badges and eventually becoming the champion of the Pokémon League. To achieve this goal, players need to collect Pokémon and form their own team while completing the Pokédex. Establish bonds with Pokémon, grow together, and win every Pokémon battle.

Pokémon cultivation is one of the core elements of the Pokémon main series of games. It was introduced in the first generation of the game. With the change of game generations, more mechanisms were added and improved. Up to the ninth generation today, Pokémon cultivation has been very rich and perfect. The cultivation of Pokémon can be divided into two directions. One is to obtain the most powerful Pokémon that best suits its abilities in battle through the cultivation

\* Corresponding author: 192410019@zhongxi.cn

of Pokémon's abilities. Statistic indicates the strength of a Pokémon. Statistic is determined by many parameters. Players can improve certain parameters of Pokémon through di-rectional training to achieve the purpose of improving Statistic. For example, gain experience to increase the Level; defeat Pokémon to increase Base points; increase Individual value through Hyper Training. The second is to cultivate the relationship between the trainer and the Pokémon, so that the Pokémon becomes the player's virtual pet. The direct expression of emotion is called Friendship. Players can im-prove friendship by interacting with Pokémon, and Pokémon will also give players feedback based on Friendship. After the eighth generation, the improvement in the performance of handheld game consoles has greatly enriched the way players inter-act with Pokémon, and Pokémon has more detailed and real feedback. Friendship can affect the evolution of some Pokémon and the power of some moves. Although the two directions are completely different, they are closely related and complement each other.

## 2.Literature Review

As Pokémon has taken the world by storm, many scholars have investigated the game's central themes. Christian McCrea proposed that the first generation of Pokémon games shifted the concept of game character growth from the protagonist played by the player to the Pokémon, allowing players to focus on the biological group of Pokémon. And the first game built a diverse Pokémon collection system to guide players to enjoy the process instead of just completing superficial goals [2]. Other scholars have also conducted research on Pokémon collecting. Carina As-sunção, Michelle Brown, and Ross Workman proposed that Pokémon players collect not just creatures, but entire Pokémon series. With the change of game generations, more types of Pokémon were born, and players are keen to collect all Pokémon [3]. Samuli Laato and Sampsa Rauti found the relationship between Pokémon Trainers and their Pokémon is a central theme in almost every Pokémon game. The game promotes the symbiotic and caring relationship between the player and the Pokémon, that is, the trainer and the Pokémon become stronger together, and the Pokémon and the trainer become more and more intimate. This connection is established through visual and story elements [4]. Seth Silvestro also discovered the relationship be-tween Pokémon trainers and their Pokémon, and further suggested that the game's artistic appeal lies in how the game creates new strategies and allows players to create new relationships [5].

To study the cultivating mechanism of Pokémon games, the relationship between Pokémon and the Pokémon trainer played by the player is an element that cannot be ignored. Stina Attebery proposed that the Pokémon game simulates biology and explores the complexity of the relationship between humans and animals: animals are both economic resources and partners [6]. Regarding the partnership between Pokémon and trainers, Samuli Laato and Sampsa Rauti

also found that Pokémon games and movies have always focused on the partnership between trainers and Pokémon, rather than using or enslaving them [4]. Seth Silvestro proposed that no matter what the player likes, they can find the favorite Pokémon and travel together as friends [5].

Another focus of this theme is the player's feelings. Claus-Peter H. Ernst and Al-exander W. Ernst found that people will have real feelings for virtual pets, and virtual pets can also bring companionship to their owners. As virtual pets, Pokémon can bring players a sense of belonging, and the presentation of the sense of belonging has become one of the positive factors affecting Pokémon games [7]. Chaolan Lin and Travis Faas found that one of the reasons why people are keen on raising virtual pets is that they can get emotional support, which is reflected in emotional regula-tion, enjoying the sense of responsibility and accomplishment of owning pets, and so on. And millions of consumers are willing to invest time and money into it [8, 9]. Evie Chang proposed that he wanted to convey a sense of sadness or loss through virtual pets, which originated from those lost companions, in order to stimulate peo-ple's emotional expression for digital companions [10]. Although virtual pets bring different feelings to different people, but this emotion is real and moving.

Although many scholars are researching in this field, few scholars have studied the mechanism of Pokémon cultivation. Pokémon cultivation is one of the core elements of the Pokémon games. It was born in the first generation of the games. After 27 years of iterative development, to the ninth generation today, the Pokémon culti-vation system has been very rich and mature. The gameplay contained in the whole system is very rich and interesting, and a lot of intriguing details have also been born, which are worth researching and summarizing. As one of the most influential series of games in the world, Pokémon has an extremely large audience. Which gameplay mechanisms and game details are sought after by players? How are they implemented? Studying the mechanism of Pokémon cultivation can set a benchmark for virtual pet cultivation games, which has an indicative effect on this game indus-try. This article will explore the cultivating mechanism of Pokémon games by analyzing the related gameplay of Pokémon ability training and Pokémon interaction.

## 3.Methodology

The research method adopted in this paper is observation, and the cultivating mech-anism of Pokémon games is observed in three directions: Pokémon ability training, Pokémon offspring breeding, and Pokémon interaction. The purpose of cultivating Pokémon's abilities is to obtain the most powerful Pokémon that best suits its abili-ties in battle. Power is not an absolute concept, but to maximize strengths and avoid weaknesses, so that each Pokémon has its own shining points and has its own uses. This is one of the biggest characteristics of Pokémon compared with other imitators. What is the specific training method and how is the improvement of

ability intuitively reflected are the subjects of observation when researching Pokémon ability training. Pokémon can lay eggs with other Pokémon and hatch offspring. Breeding the offspring of Pokémon is also a way of directional cultivating Pokémon, and it is an indispensable and important part of Pokémon cultivation. This study investigated the egg-laying principle of Pokémon and the genetic mechanism of offspring. With the change of generations, the enrichment and refinement of the interaction between players and Pokémon has opened up the gameplay of Pokémon as a virtual pet raising game, attracting quite a few players to immerse themselves in it, and gradually becoming one of the core elements of Pokémon games. This study observes the interaction between trainers and Pokémon and the feedback of Pokémon in Pokémon Scarlet and Violet, the latest Pokémon core games.

## 4.Result

In the perspective of Pokémon ability training, the following mechanisms are included. Level cultivation mechanism is an important feature of ability training. For example, by winning battles to obtain Exp, when a Pokémon accumulates a certain amount of Exp, its Level will rise, its ability will be numerically improved, and it may learn new moves or evolve. Individual values cultivation mechanism is an important feature of ability training. For example, Hyper Training can be used to increase a Pokémon's innate Individual values to improve Statistic. Base points cultivation mechanism is an important feature of ability training. For example, when a Pokémon defeats an opponent through a match, it acquires and accumulates Base points to improve Statistic. The Offspring Nurturing Mechanism is an important feature in terms of targeted cultivation. Relationship cultivation mechanism is an important feature in emotional cultivation. For example, trainers can raise Affection by playing and walking with their Pokémon, and when Affection is higher, the Pokémon will be more powerful in battles.

## 5.Discussion

Level cultivation refers to the purpose of raising Pokémon's ability by acquiring Exp and thus raising the Level of the Pokémon. Levels range from 1 to 100, and raising the level directly improves the six basic Statistic of the Pokémon (HP, Attack, Defense, Special Attack, Special Defense, Speed), learning new moves, and evolution. Level and Exp are presented visually, and the game use various ways to make players notice the Level of Pokémon and the acquisition of Exp, so that even players who are new to Pokémon can find the right direction to cultivate Pokémon. The improvement of Level gives players enough positive feedback, the direct improvement of ability, new moves acquired, and new evolutionary forms attract players. Exp's numerical design is quite mature, the Exp required to upgrade gradually incremental, and control in a reasonable range, both to allow players to feel the sense of achievement of

gradually become stronger, but also does not let players spend a lot of time. The upgrade process of different Pokémon is obviously different. Different Pokémon require different Exp to upgrade and evolve, and some grow quickly while others are late bloomers. This differentiation ensures that the upgrade process is rich and interesting. This study believes that the Level cultivation mechanism is very mature and excellent in terms of numerical design, player guidance, positive feedback, and innovation. And level training, as the basis of Pokémon ability training, must be simple, intuitive and effective, and it is not appropriate to make too many changes in subsequent works.

Individual values cultivation refers to improving the innate ability of Pokémon through Hyper Training and increasing the Statistic of Pokémon to the value corresponding to the full Individual values. Individual value is a hidden value inherent to each Pokémon, which together with other parameters determines Statistic. Individual values itself cannot be changed, but it is possible to change the way Individual values affect the calculation of Statistic, thus compensating for the innate deficiency. Individual value is an ingenious design. Just like real creatures, there will be obvious individual differences between Pokémon of the same species. But even congenital deficiencies can be made up by later efforts, giving players and Pokémon the opportunity to become further stronger without abandoning Pokémon because of congenital deficiencies. Individual values are hidden values. Players can only understand the approximate value range through vague text descriptions. The vague description and guidance make Individual values ignored by many players. This study believes that the design and cultivation mechanism of Individual values is very delicate and interesting, and the relevant mechanism can be continued in subsequent works. But it is too obscure, lacks guidance, and is very unfriendly to novice players. Under the premise of keeping, it as a hidden value, appropriate guidance can be given for novice players, through plots, NPC dialogues, etc.

Base points cultivation refers to obtaining corresponding Base points by defeating Pokémon. Base points are a hidden value, accumulating Base points can improve Statistic. The existence of Base points encourages players to fight more and gives players enough positive feedback. The presentation of Base points is relatively intuitive. Through the radar chart, players can know the distribution of Base points and whether the upper limit has been reached. Base points cultivation is very difficult, each Pokémon has a different distribution method of Base points. How to allocate the limited Base points to the six basic Statistic effectively has troubled many players. This study believes that obtaining and assigning Base points is difficult, and even skilled players need to use encyclopedia guides or even calculators to complete. This article believes that the hidden numerical attributes of Base points can be canceled, so that the development process can be appropriately simplified.

Offspring Nurturing refers to obtaining the Pokémon that players want by laying Pokémon eggs and hatching

them. The Pokémon of the offspring have a probability of inheriting the appearance, Ability, Move, Statistic and even the type of Poké Ball of the parent Pokémon. Players can get the Pokémon they want through directional cultivation through the laws of genetics. Offspring nurturing often requires generations of selection, which takes a lot of time and has a high threshold. Players have also received positive feedback: the offspring Pokémon that inherited the good genes of the parents broke out of their shells, or the appearance of Shiny Pokémon (a Pokémon with a different color from ordinary Pokémon), which attracts players to give a lot of time. At the same time, these players often exchange the redundant offspring Pokémon to other players through Surprise Trades, and these screened Pokémon with excellent Individual values will become new parents. This study believes that the offspring nurturing mechanism needs to be supported by a complex genetic mechanism, and the main audience is also core Pokémon players. The current offspring breeding mechanism is quite complete and profound and does not need to be changed in subsequent works.

Relationship cultivation refers to trainers improving Affection by interacting with Pokémon and other methods. Affection is a hidden indicator of the friendship between the trainer and Pokémon. Affection is not only the relationship witness between the trainer and Pokémon, but also affects the evolution of some Pokémon. The relationship cultivation mechanism and interactive gameplay have opened up the gameplay of Pokémon as a virtual pet cultivation game. Up to the current ninth generation, the interaction methods, animation effects, and interactive feedback cooperate with each other, and with the blessing of powerful IP, Pokémon has also become the benchmark for virtual pet raising games, attracting a large number of players. The game has always encouraged players to regard Pokémon as partners, creating an atmosphere of belonging, and Pokémon will also give positive feedback. This two-way relationship expression is also a value that the game has always respected. This study believes that Pokémon games have a lot of room for expansion in terms of relationship cultivation and interactive gameplay, and more gameplays can be introduced in subsequent works.

## 6. Conclusion

This study explores the specific mechanism and implementation of Pokémon cultivating gameplay in Pokémon games from three aspects: the way players participate in Pokémon cultivating, the results of cultivating, and the experience players get. There are three central themes in the Pokémon cultivation gameplay: ability training, offspring nurturing and emotional cultivation. In the theme of Pokémon ability training, the first is the Level cultivation mechanism, which is a way to achieve ability cultivation by raising the Level of the Pokémon, thus raising the Statistic of the Pokémon. As a basic ability cultivation method, Level cultivation has matured and excellent numerical design, player guidance, positive feedback and

innovation, and is widely accepted and understood by players. The second is Individual values cultivation, which is a way to improve the Statistic by increasing the Individual values of a Pokémon. The essence of individual values cultivation is to make up for innate deficiencies through acquired efforts, which itself, as a hidden attribute, is insufficiently guided and has a high degree of difficulty in cultivation. The third is Base points cultivation, which is a way to improve Statistic by accumulating Base points. Base points cultivation has enough positive feedback, but the data presentation is vague and difficult to raise. The Offspring nurturing mechanism is a way to target and filter out the Pokémon that players want by laying Pokémon eggs and hatching them. The genetic mechanism is rich and interesting, with enough positive feedback, but also has a high barrier to entry, attracting a large number of core players. Emotional cultivation theme contains relationship cultivation mechanism, which is to improve Affection by interacting with Pokémon and other methods. This mechanism expands the gameplay of Pokémon as a virtual pet raising game, and has excellent interaction methods, animation effects and interactive feedback. At the same time, the play has unlimited room for innovation and expansion as the work pushes forward.

## References

1. Guttman, A.: Revenue of selected media franchises worldwide as of August 2021, Statista, (2021).
2. McCrea, C.: Pokémon's progressive revelation: Notes on 20 years of game design, Mobile Media & Communication, (2017).
3. Assunção, C. Brown, M. Workman, R.: Pokémon is Evolving! An investigation into the development of the Pokémon community and expectations for the future of the franchise, Press Start, (2017).
4. Laato, S. Rauti, S.: Central Themes of the Pokémon Franchise and why they Appeal to Humans, Hawaii International Conference on System Sciences 2021 (HICSS54), (2021).
5. Silvestro, S.: It's Not Just a Game A Comparison of Chess and Pokémon as Play, Strategy, and Art, Sacred Heart University, (2023).
6. Attebery, S.: Coshaping Digital and Biological Animals: Companion Species Encounters and Biopower in the Video Games Pikmin and Pokémon, Humanimalia, (2015).
7. Ernst, C.H. Ernst, A.W.: Why People Play Pokémon: The Role of Perceived Belonging, Twenty-first Americas Conference on Information Systems, (2015).
8. Lin, C. Faas, T. Dombrowski, L. Brady, E.: Beyond Cute: Exploring User Types and Design Opportunities of Virtual Reality Pet Games, VRST '17: Proceedings of the 23rd ACM Symposium on Virtual Reality Software and Technology, (2017).
9. Chesney, T. Lawson, S.: Learning to care for a real pet whilst interacting with a virtual one? The

educational value of games like Nintendogs, AISB 2008 Convention Communication, Interaction and Social Intelligence, (2008).

10. Chang, E.: Buddy tale an Exploration of Virtual Pets and Our Relationships to Them, University of California, Santa Cruz, (2020).