

A Brief Analysis of the Psychological Principles of Online Game Design and Its Educational Strategies for Teenagers

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Abstract: in Recent Years, the Rapid Development of China's Game Industry, a Variety of Good and Bad Games Filled the Network, and with the Rapid Development of the Mobile Internet, Teenagers Have Become One of the Main Users of Online Games, Addicted to Online Games and Delayed Their Studies Are Common. the Strong Appeal of Online Games to Teenagers Comes from the Design of Their Psychological Control Points. Understanding the Psychological Principles of Their Design Will Help Teenagers to Have a More Rational Understanding of Online Games and Prevent Game Addiction. At the Same Time, It is Beneficial for Schools, Families, Government Departments and Enterprises to Cooperate with Each Other, Form a Joint Force, and Take Effective Measures to Guide and Manage Young People's Game Behavior.

1. Introduction

In recent years, with the rapid development of China's mobile Internet and the gradual popularization of smart phones and tablet computers, the online game industry is developing rapidly, and various games of good and bad are flooding the Internet. From the traditional chess and card games and other leisure and entertainment games, to the large-scale role-playing games, the content of the game is rich and the types of the game are diverse. Many online games to attract players not only designed a beautiful picture, beautiful music, but also with twists and turns and bizarre storyline, real moving scenes. In addition to paying more and more attention to the artistic, cultural and historical design of the content of online games, more attention is paid to the psychological level of research and design.

2. Psychological Principles of Online Game Design

2.1 Mental Flow Zone Design

In the 1960s, Csikszentmihalyi, the founder of the American positive psychology, found that when artists, chess players, rock climbers and composers are absorbed in their work, they often lose track of time and sense of their surroundings and indulge in the pleasure of the work process. On this basis, Csikszentmihalyi proposed flow theory. People don't even feel the time when they're in a state of flow, and they feel energized and fulfilled afterwards. Therefore, "Mental flow" is the best experience that combines happiness and accomplishment.

The Mental flow experience makes people's lives happy and happy, and has the magic of addiction. However, not all working conditions can produce a mental flow experience. The generation of mental flow experience depends on the matching between task difficulty and individual ability. If the task difficulty is much higher than individual ability, people will worry about anxiety and have deep Frustration, The task is too difficult to form a challenge to personal ability, people will find the task boring, not attractive. Flow can only be triggered if the task's difficulty and ability match. So there's an area of flow between the difficulty of the task and the individual's ability, which we call flow.

How do you keep the player from feeling bored by the simplicity of the game and fidgety by the difficulty of the game, so that the experience stays in the "Mental flow zone " This has become the goal of game design and research. In order to allow players of different levels to experience flow in

the game, designers will design one game goal and story after another from low to high, from easy to difficult, and several such elements are combined to form various game events. Different game objectives and events are appropriate for players at different levels of ability, enabling players at all levels to experience challenges that match their abilities. Therefore, players can continuously get the freshness and fun brought by the upgrade in the game, and experience the sense of self-control, success and happiness.

2.2 Strengthen the Application of Strategy in Time

Some online games are neither rich in content nor challenging in ability, but simple, repetitive, or even boring mechanical operations. Why are some people addicted to these games?

In the 1960s, Skinner, an American behaviorist psychologist, put forward the theory of operant conditioning. He thought that when an individual reacts to an environment, if it's followed by an reinforcer, the probability of that reaction occurring in a similar environment increases; Conversely, unreinforced responses are less likely to occur in similar environments, or even disappear. Skinner also stressed that in order to achieve the desired behavioral effect, reinforcement must be timely, delayed reinforcement will become worse. This principle is widely used in animal behavior training, new behavior shaping and bad behavior correction. Modern research further found that people are rewarded the excitability of neurons in the brain gives more impulsive, and release a certain amount of neurotransmitter called dopamine, make the person produces excitement and pleasure, for once again experience the excitement and pleasure, the brain can produce "try again" reward expectation, otherwise will be anxiety, not happy.

All kinds of games, whether simple or complex, have roughly the same design idea -- timely reinforcement, that is, the completion of each game goal is accompanied by some form of reward, such as gold, bonus points, equipment, etc., to strengthen the player's behavior. With the deepening of the game, the reward level keeps rising, which further stimulates and strengthens the confidence of the players, and at the same time makes people experience the pleasure of greater success, which makes people expect the reward again, so the cycle makes the seemingly simple, repetitive and even boring game full of temptation.

2.3 Internal Force Drive of Completion

Gestalt is the original German translation of the word Gestalt. Gestalt is a psychological structure, that is, the whole structure that is functionally interrelated and interactive, and it is the cognition of the relationship between things. Gestalt psychology believes that the process of learning is the process of perceptual restructuring or cognitive restructuring, that is, "changing one gestalt into another gestalt". Gestalt tendency of human psychology has an organizational function that drives people's cognition of things from a chaotic and fuzzy state to a meaningful and structured state, thus filling gaps or defects and forming new gestalt.

Network game design makes full use of the above psychological mechanism. Now most online games with rich content, twists and turns, and even suspense, bizarre story line. Once the game starts, just like watching TV series, the gap in human cognition is opened and a strong desire to continue to understand is generated. Driven by this motivation, people will continue to play until the game task is completed and a new cognitive completion is formed. Otherwise, people will feel uncomfortable and anxious in their heart.

2.4 Social and Achievement Needs

"The human heart has a strong social drive that is 'needed by people'." 1943 American humanistic psychologist Abraham Maslow proposed in the theory of human motivation, people live in the real life will have a variety of requirements, in addition to the lower level needs such as physiological needs, security needs, and social demand, respect demand of love and belonging, and maximize individual potential and realize their life values of high-level requirements. The interactivity and interactivity of online games satisfy people's psychological needs to be accepted and understood. Multiple players participate in the game at the same time, play roles, cooperate with each other, and pass information to each other, so that people can experience friendship and care, and have a sense of

belonging. The setting of virtual level, honor and reward just caters to people's desire to prove their ability, gain others' recognition, meet the respect, develop their potential and other high-level needs, making up for the unsatisfied needs and various defects in real life. Many online games design a variety of short-term goals, through the upgrade, reward to drive people to continue to complete the task, experience the upgrade and get honor pleasure, get virtual respect and recognition, self-affirmation. The satisfaction of such high-level psychological needs to gain respect and realize self-value makes people gradually rely on games, ignore the pursuit of interpersonal communication and achievements in real life, and indulge in the virtual game space.

2.5 Psychological Value of Virtual Prizes

In the process of playing the game, players will strive for more equipment, props, currency and other virtual items. Why are these virtual items so attractive, mainly from the psychological value of virtual goods? Psychological value is intangible but objective. People's cognition of the psychological value of virtual goods in games affects the transaction motivation of both the supply and the demand. According to the law of value, the value of goods can be divided into use value and exchange value, which constitute two aspects of psychological value. The virtual items in the game can make the game characters change and upgrade, and can be exchanged among the characters used by different players. They can also be sold as commodities. They have both use value and exchange value. This is because these virtual items are acquired with effort and time, and the higher the level of virtual items, the rarer they are, the harder it is to get. Therefore, the more time and energy virtual objects spend, the higher their psychological value will be. Based on this knowledge, the player will invest more time, energy and even money to obtain more and more valuable virtual items.

2.6 Extreme Emotional Pleasure Experience

Emotions have different levels of intensity and polarity. The higher the level of an emotion, the greater the psychological slope it presents, and the easier it is to transition to an opposing emotional state. So the mental state is like a pendulum. The higher it goes to one side, the higher it goes back to the other side. This phenomenon is called the mental pendulum effect. Like tears of joy. This kind of change from one extreme to the other gradually, experiencing the agitation and impact brought by the reversal of emotions, is often used in the plot design of films, television and various literary works. Game designers also apply this principle to the design of online games. Such as the use of color and light transformation, from extreme repression under the dark to bright relief, by a security scenario of peace to the extreme danger of the reversal of fear, and break the conventional thinking of unexpected strange plot design, brings to the person's mood and emotions all the impact of the strong, make the person's nerve excited, deserve to go up again to rhythmic music, make it easier for people immersed in the role of the game, devoting themselves to their game scene, forget sadness, gain and loss in the real life.

In addition to the above factors, game designers also accurately grasp other weaknesses of human nature, such as setbacks, retreat and escape from reality, put themselves in a fictional world, get satisfaction, reduce the psychological pressure and pain caused by failure.

3. The Necessity for Teenagers to Understand the Psychological Principles of Online Game Design

Teenagers have become one of the main users of online games. Contemporary teenagers are a generation growing up with the development and popularization of the Internet. With the development of the mobile Internet, teenagers have more convenient access to the Internet and the number of Internet users is increasing day by day. According to the 44th statistical report on Internet development in China released by China Internet network information center on August 30, 2019, By June 2019, China had 854 million Internet users, more than 20 percent of whom were under the age of 19. China's youth online game users have exceeded 200 million, accounting for 66.5 percent of the country's youth Internet users. With the popularity and performance improvement of mobile phones and other mobile devices, the age when Chinese teenagers first contact online games is getting

younger and younger. Intermingled online games have penetrated into the study and daily life of teenagers, who are highly addicted to the Internet. The original intention of network game is to enrich people's life, make people's life happier, and promote human civilization and progress. However, in order to gain more profits and attract more players, some game companies have developed online games full of violence, pornography, gambling, and misinformation that distorts history and misleads values. Adolescence is a period of psychological turmoil, but also a person half immature half mature period, most teenagers have not formed a stable and correct outlook on life, values and world view. They like to find friendship, vent emotions, release pressure and seek comfort and stimulation through the virtual world. However, due to poor self-control ability, weak sense of self-protection and easy to be attracted by novel things, it is often difficult to make sense and self-control in front of online games. Some teenagers spend too much time immersed in the virtual game world, which affects their study and real life, and damages their physical and mental health. Some teenagers even get involved in violence and bad habits, resulting in cognitive confusion, forming wrong outlook on life and values, and committing crimes. Therefore, it is necessary for the majority of young people to better understand and understand the psychological principles of online game design, more rational treatment of online games.

4. Prevent the Youth Network Game Addiction Education Strategy

According to the psychological principle of game design, the prevention of adolescent online game addiction requires the cooperation of schools, families, relevant government departments and enterprises to form a joint force for joint counseling and management.

4.1 Improve the Young People's Cognitive Ability of Online Games, Eliminate the Sense of Mystery

With the development of Internet technology, the network is more closely related to people's life. It is unrealistic to cut off the relationship between teenagers and the network and avoid the network. The capital in 2017-2018 teenagers online behavior research report shows that nearly seventy percent of teenagers to actively participate in network communication, through the thumb up, review and forward social networking functions such as self-expression, personal dynamic information and pictures will be released at the same time as important social way, this trend will become more obvious and even normal.

Adults must be clear that the trend of The Times is irreversible, no computer, no mobile phone, no online games no longer exist, must face up to the influence of online games and inevitable. Second, to change the congestion for sparse, guide teenagers to correctly understand the network "virtual world", understand the type, nature and knowledge of online games, break the mystery, eliminate the youth net friends curiosity psychology, fully understand the virtual and entertainment of online games, the advantages and disadvantages of online games, correct game mentality.

4.2 To Carry out Comprehensive Network Security Education for Young People, Popularize Network Security Knowledge, Cultivate the Rational Thinking of Online Games

Although most online games require id registration, teenagers still encounter various unidentified players in the game. Due to the lack of social experience, they are easy to trust others, and personal information is often exposed to the Internet intentionally or unintentionally. According to the survey, there are three main problems in teenagers' awareness of network safety: parents' lax control, insufficient popularization of safety technology knowledge, and hidden risks of network social networking. Therefore, parents should strengthen the network safety education for teenagers, so that they understand and realize that the network information and people they know online may be false and fraudulent, do not easily reveal personal information, let alone easily trust strangers. Schools should establish a systematic and comprehensive network security education system to popularize network security knowledge. Through systematic and perfect education, make teenagers understand the virtuality and insecurity of the network, improve the awareness of defense and self-protection, and enhance the psychological "immunity" to yellow, violence and fraudulent information.

4.3 Implement Effective Online Game Monitoring

Teenagers have poor self-control and are often attracted by the new content, new equipment and new rewards of online games. They cannot restrain and control themselves well. According to the green rating of Chinese games in 2013, 58% of online games set consumption traps, and spending money on game equipment became the most common setting in online games. Therefore, parents should first put a good gateway, control the adolescent online time, negotiate with the children to make the online timetable, determine the content of the game played online, type, the shielding of bad information outside the network, at the same time to strengthen the children to abide by the promise of rational online behavior, form a good online habit.

Regulators should intensify their efforts to regulate the online game market, purify the online game environment, eliminate pornographic and violent online games and websites that are harmful to the healthy growth of young people, strictly approve online games from content to form, and control the health of online games from the source. In 2007, China began to promote the game anti-addiction system, requiring all online games in operation to develop anti-addiction system in accordance with the “development standard of online game anti-addiction system”. However, due to many loopholes, the actual supervision effect is not ideal, especially the supervision of mobile games is still blank. With the rapid increase in the number of mobile game, regulatory lag is increasingly obvious. In April 2018, the Ministry of Education issued an urgent notice on the prevention of online education guidance for primary and secondary school students, requiring local education administrative departments to organize primary and secondary schools to conduct a comprehensive investigation of students' online addiction and take targeted measures to rectify the situation. In 2007, China began to promote the game anti-addiction system, requiring all online games in operation to develop anti-addiction system in accordance with the “development standard of online game anti-addiction system”. However, due to many loopholes, the actual supervision effect is not ideal, especially the supervision of mobile games is still blank. In order to protect the physical and mental health of minors, it is urgent for China to develop a more effective anti-addiction system, research and explore a age-appropriate reminder system in line with the national conditions, limit the time of online games for minors, and prevent game enterprises from seeking wealth by inducing adolescent addiction.

Online game enterprises should also have a sense of responsibility, based on the long-term development of enterprises and social benefits, the development is conducive to the growth of youth science and general type of online games. Game content should be healthy and upward, knowledge and fun combination, form lively and vivid, reflect the national culture and the spirit of The Times, refuse violence, yellow, terror and blood and other low-level online games, game industry can develop for a long time.

4.4 Pay Attention to the Psychological Needs of Teenagers and Enrich Their Spiritual Life

First, adults pay attention to children's spiritual world and psychological needs. The teenagers who like online games are lonely and lonely in real life, they have more interpersonal communication and academic failure experience. Zhang guohua et al. found that in real life, teenagers' legitimate psychological needs such as social contact and respect could not be satisfied. They will get satisfaction and compensation through online games. Therefore, parents should communicate more with their children to meet their legitimate needs such as companionship, love, recognition and encouragement.

Secondly, adults should lead by example and set a good example for children. Refrain from surfing the Internet and playing games. Make use of the Internet and play online games regularly.

Thirdly, parents and schools should create a colorful life atmosphere for teenagers, organize and carry out colorful outdoor activities, cultivate interests, acquire skills, develop specialties, establish family affection and friendship, and experience success and happiness in real life.

References

- [1] Flow: optimal experience psychology [C]. Beijing: citic press, 2017.

- [2] Yu Yanchen. Reconstructing game design concept to promote sound industrial development -- countermeasures for the development of contemporary popular science online games [J]. Journal of longyan university, 2015 (6) : 66-72.
- [3] Zhang Guohua, Lei Li. Cross-lag analysis of adolescent online game experience and online game addiction [J]. Psychological science, 2015, 38 (3) : 883-888.
- [4] Xia Xiaotong, Niu Xixi. Influence of online games on teenagers and coping strategies of online game addiction [J]. Jiangsu education, 2018, (56) 37-39.
- [5] Chen Qi, Liu Rude. Contemporary educational psychology [C]. Beijing: Beijing normal university press, 2011.