

# On the Design Strategy and Value of Cultivating Integrity Behavior in Characterized Moral Education Games

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**Abstract**—This paper mainly discusses the strategy design of the combination of role-playing games and integrity education from three perspectives: role attributes, situation triggers and feedback. Integrating integrity elements with roles and situations, and providing more behavioral stimuli to players by external triggering. Under metacognitive monitoring, real-time feedback and reward mechanism can help players to improve their Flow experience, promote their better immersion status and generate positive psychological identification of integrity values, thus extending it to the habit cultivation of integrity behavior. In addition, the role-based moral education can also be applied in other moral education environments, and should not be limited to video games. Individuals can use the role identity to understand and internalize the integrity of the content and cultivate their own integrity behavior.

**Keywords:** *characterization, four elements of integrity, moral education game situation, metacognition*

## I. INTRODUCTION

### A. Integrity and Integrity Education

In Chinese, Chengxin(Integrity) is composed of the characters "Cheng" and "Xin". "Cheng" (Honesty)and "Xin"(Faith) gradually evolved from the initial mutual training relationship to dialectical unity and each has its own emphasis. "The Doctrine of the Mean" said: the honest, the way of heaven; the honest, the way of man; it regards "Honesty" as the ontology of the world and the place of "the way of Heaven"; To achieve "Honesty" is the embodiment of human value, is the place of humanity. Therefore, "Honesty" more reflects the expression and externalization of the inner truth of the individual, is the order and rule of reference to the interior [1]. " The Analects of Confucius" said, "to make friends, to have faith." Faith focuses on the role of the subject's words and deeds in the interpersonal relationship, which is the basic requirement of maintaining the social relations with the outside world.

Since ancient times, integrity has been an important part of Chinese education, and it is a tacit cognition of the Chinese people from the beginning of the Enlightenment. The

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combination of contemporary integrity values and the principle of governing the country by virtue and governing the country according to law not only preserves the essence of Chinese traditional moral integrity, but also draws on the connotation of institutional integrity under the spirit of Western equality and justice contract under the guidance of Marxism. In general, traditional integrity education is mainly based on moral integrity education, focusing on cultivating people's self-discipline and integrity, and is relatively weak in terms of institutional integrity. In modern integrity education, we must not only carry forward the moral integrity education based on self-discipline, but also strengthen the system integrity education that is bound by others.

### B. The Advantage of Intergrity Education in Role-Playing Games

The traditional integrity education is mainly based on positive explanation and reasoning, and it is highly indoctrinated. Moral education games provide a new model for integrity education, which provides learners with practical situations to obtain explicit and tacit knowledge, and stimulates the emotional input of learners in the game experience process. According to the constructivist theory, the game experience produces lower levels of anxiety and higher interest, which can effectively improve the self-efficacy of the subject in the learning and cognitive environment. The game's entertainment and feedback mechanisms can increase the player's active participation probability, resulting in more positive psychological expectations and higher cognitive efficiency.

Role-playing games (referred to as RPG games) are mainly composed of characters, plots and tasks. They are good at moving people with emotions and people with situations, and they are very suitable for the pursuit of integrity and moral education games. The RPG game character is a process of integration and re-selection. Players need to integrate social characters and game characters, moral self and game self, project self-awareness into the game character, complete identity change and enter the role behavior adaptation state. The RPG game character is a kind of free activity space for the player to provide the player with a personalized free activity space within the scope of the role preset. The free value process has a subtle influence on the value creation process. RPG game characters also have an assimilation function, which

requires players to respond to the role's requirements under the limitation of the role. High frequency and subconscious behavior response may form a kind of behavior inertia, which may extend to the main body's current behavior response.

The characterized design of the integrity moral education game can help players understand the meaning of integrity, standardize the integrity of behavior, conduct self-reflection and regulation, promote the establishment of correct integrity values and cultivate good faith behavior.

## II. DESIGN STRATEGY FOR CULTIVATING INTEGRITY BEHAVIOR IN RPG MORAL EDUCATION GAMES

### A. Integrity Structure into Role Attributes

The role has always been regarded as the core of the RPG game. The character attribute is a collection of character behavior data, and is also a direct reflection of the game character rules. According to the qualitative research of Wu Jixia and Huang Xiting in 2012, China's integrity has its internal structure of internalization - four factors of integrity. The four factors are honesty, credit, trust and responsibility. They are interrelated and closely related to the external environment[2]. We designed the Integrity Moral Education game to draw on the research results of the four elements of integrity, and integrate it into the role-playing game, using the elements of the game to show how to measure and evaluate the integrity behavior.

1) *Test honesty with MMPI scale:* The driving force of honesty lies in conveying true information. This "truth" refers not only to the authenticity of the content, but also to the true will and thoughts of the subject. We have incorporated the MMPI (Minnesota Personality Test) L lie measure into the game design to help verify the player's honesty. MMPI's lie scale consists of 15 socially recognized common attitudes and behavioral descriptions. It is a personal problem that is not expected by society but is harmless. The participants choose yes/no. The MMPI scale scoring rule is 1 point for the selection of "No", and the honest score is determined by the cumulative score of 15 questions. The MMPI scale design team believes that if the final score is high, it indicates that the player has a tendency to over-beautify the self, intending to cover up his own problems, and the degree of honesty is low. In actual use, 8 points or more means deliberate self-expression, and 10 points or more means that the scale cannot be trusted.

2) *Virtual credit supervision mechanism:* Credit is a continuous state of action with time attributes, and long-term positive performance records accumulate to form a good reputation. The credit connotation and extension of modern society are increasingly complex and diverse. The modern market economy is essentially a huge network of social relationships woven by intricate credit relations[3]. It is impossible to restrict market credit behavior by relying solely on moral self-discipline. It is necessary to strengthen credit legislation to regulate.

Therefore, in the design of the integrity moral education game, the setting of credit legislation can be highlighted, and the virtual credit system in the game can be established, combined with the role death and game reward. Create a credit subsystem for the game character, bind the player's game behavior to the credit, and associate the character growth system. The credit rating rule is constructed, and the lowest rating belongs to credit bankruptcy, which requires corresponding punishment. If the role credit score is high, the more rewards. The game's punishment for untrustworthy behavior will be highlighted to alert and advise gamers and pay attention to the maintenance of good credit history.

Victor H. Vroom pointed out in the "Expectancy theory" that the strength of a person's behavioral motivation is the product of the target value and the expected probability. The higher the target value, the higher the success expectation value, the greater the behavioral incentive energy, ie the motivational intensity[4]. Therefore, through the design of a virtual credit system with clear objectives and a degree of relaxation, the player is encouraged to maintain the credit status operation. Players arouse their desire to survive in the game under the motive of self-improvement and risk avoidance, thus avoiding the cost of high-cost games. The player's will to maintain the credit and the awe of the law will be awakened and motivated during the game.

3) *Prisoners' dilemma and trust game:* Trust is both a strong and stable psychological belief and a soft and tenacious dependency. As can be seen from the meaning of words, trust is a concept that exists between multiple roles. At least two subjects must be connected. Therefore, we design the integrity moral education game as a multiplayer game and set the game trust system.

In 1958, Deutsch introduced the study of trust into the field of psychology through the "Prisoner's Dilemma" experiment. The Prisoner's Dilemma can test the motivation and outcome of trust destruction through multiple rounds of experiments. Integrity moral education games can embed the "Prisoner's Dilemma" into RPG games. Create a game trust system, refer to the reward and punishment mode of the "Prisoner's Dilemma" experiment, choose trust cooperation, trust scores to increase two points together, and choose trust fraud to be affected by both parties. If one party deceives a party to cooperate, the deceiver adds a three-point partner to deduct one point.

People's choices have the dual tendency of self-interest and altruism. When there is a certain conflict between interest selection and trust cooperation, the preview situation we designed can clearly reflect the true thoughts of the players. If both sides of the game are pessimistic and believe that their own will be derived from the loss of the other party, it will become a zero-sum game; if both sides of the game strive to create a win-win, then a Non-zero-sum game. When the trust game is repeated many times, the trust fraud generated by the coveted personal interests will be penalized by the game choice of the next round, and thus the game is more inclined to abandon the zero-sum game. The trust system of the game encourages both sides of the game to create more non-zero-

sum games through the affirmation of trust cooperation and the punishment of trust fraud, so that altruism and self-interest.

4) *Commissioning tasks to test responsibility*: Ling Wenquan and Huang Wenshu(2006) define responsibility as: Responsibility is an important quality of individual psychology closely related to a person's moral conscience, and is an individual's self-consciousness of self-responsibility and the behavioral tendency of active performance. Schlenker(1994) argues that responsibility is often used to mean "responsible to others", including ethical or legally defined responsibilities, and the corresponding responsibilities of social roles [5].

Responsibility is a state of mind with a sense of responsibility. It comes from the self-esteem of the individual and has a strong motivation for self-improvement. Based on the psychological recognition model of "obedience-identification-internalization", the task of RPG games is used to undertake the investigation of the player's sense of responsibility. In general, the game will set up a delegate task in conjunction with the scenario setting NPC, and the player can choose whether to accept the delegate task. When the player chooses to accept, the corresponding person location is required to complete the task and get a reward. In the initial state of the game, the player holds a compliant cognition of the published task, opens a mechanical information mode, and lacks emotional resonance and recognition. Once the task passes the player cognitive screening mechanism, it will form a self-enhancement channel and the emotional identity will follow. After reaching the identification phase, the importance of the concept is continually strengthened, and players will continue to imply that they can and must be competent, and internalization of beliefs is completed in this process.

Most game commissioning tasks have the characteristics of time span, and most of them are motivated positively. There is no direct punishment for forgetting tasks or failing tasks. Therefore, the entrusted task relies on the players' self-supervision and reminder, which is also the activation and test of the players' sense of responsibility.

#### *B. Role Activity Context Hosting Multiple Forms of Triggers*

It is difficult for a character to exist independently from its activity situation. Integrity as an educational content must also be spread in conjunction with specific demonstration scenarios. Situations and behaviors also need appropriate conditions to establish relationships. The condition of the connection between the two is the "trigger" proposed by behavioral design. The role-playing moral education situation provides a rich trigger bearing space. There are two types of trigger sources: external trigger and internal trigger.

There are two types of trigger sources: external trigger and internal trigger. External triggers are derived from environmental stimuli, and any element in the role-playing context may provide the player with sensory external stimuli. The internal trigger is more autonomous triggering, which is the internal driving force of the individual to promote oneself to complete some kind of repetitive behavior. The player's emotional and cognitive changes are the main internal triggers

of the moral education game. This paper will introduce the external trigger design strategy of the integrity moral education game by combining the NPC supervision mechanism and the Metagame interference mechanism.

1) *NPC supervision mechanism*: The non-player control role (NPC) running with a fixed algorithm is a traditional trigger point, mainly responsible for game prompts, context connections, and task publishing functions. The intelligent design of the NPC increases the pre-behavior decision-making scheme of the NPC to dynamically develop in response to the changing behavior of the player's character. When the player demonstrates the behavior in accordance with the criteria of integrity in the four elements of the integrity, the NPC initiates a positive evaluation response program for the player character, giving the player more clues and rewards to enhance the player's understanding of the integrity. On the other hand, if the player character violates the game ethics and the behavior of the letter of trust is frequent in the game, the NPC initiates the interference mechanism, which brings more obstacles and interference information to the player for warning.

NPC monitors the player's integrity performance in the form of a bystander, which is an important reference for players in the game. The supervised role of NPC intelligence in this situation is similar to the role of public opinion evaluation in real life, which stimulates the vitality of the situation, and the improvement of interaction can promote the player's recognition of integrity. Group pressure formed by the timely follow-up and evaluation of player behavior by many NPCs is an important factor in regulating individual behavior.

2) *Metagame's narration provides external triggering*: Metagame's game narration is an emerging external triggering method. Metagame is an advanced strategy for games, including thinking about what your opponent is thinking. If Metagame's strategy is expressed in human-machine form, the game itself is required to realize in advance the action plan strategy that the player may take, and to make a corresponding pre-responsive decision-making plan, which exceeds the player's psychological and action expectations, and create a better understanding of the player's atmosphere than the player.

The game narration is more direct and prominent than the music sound in the game sound system, which will break the original game progress and immersion, and interfere with the player's original behavior decision. Therefore, using the game narration to express the Metagame strategy, especially in the interactive context of the trust game situation, will more realistically simulate the life situation and the state of the situation surrounded by the player's daily information, so that the player can judge whether to change the original in many interference information. There is a choice to carry out some other action based on the narration. Gamers who are usually influenced by narration will face a variety of game outcomes, which may be rewards or penalties that exceed expectations, or may cause the current game system to appear to crash like a hoax.

Metagame has the characteristics of breaking the order of the game and is a barrier between virtual and reality. Unexpected triggers and uncontrollable results are the core of this type of game to get the player's attention and continue to provide new stimulus. Metagame design requires game designers to achieve a very sophisticated and mature state of mind control and prediction. When applied to the integrity moral education game, it is more necessary to combine the current educational situation, to simulate and judge the pre-selection behavior of the player in advance, and to provide different response schemes according to the player's integrity performance. The larger the volume of the response plan database, the stronger the gameplay, and the better the external trigger effect given to the player.

### *C. Feedback Design under Metacognitive Monitoring*

Dong Qi summed up meta-cognition as: "Meta-cognition is the self-regulation and self-consciousness of individuals in the cognitive process when they participate in cognitive activities" [6]. Metacognition is the cognition of cognition. It re-perceives, monitors and regulates cognitive activities while individuals perform cognitive activities. Players' understanding and internalization of integrity during the game will also be re-examined and adjusted by metacognition. Integrity moral education game is not only a simulation preview of the integrity of the player, but also a means of monitoring and control. Metacognition monitors all game awareness and behavior of players, and control is the process by which players plan and adjust integrity and cognition activities under the influence of metacognition.

1) *Quantitative scoring and real-time feedback*: The game is a mirrored reality that establishes relevance to game behavior and integrity choices through gameplay in a role-playing context. The game design uses Points and Badges to visually record the game. Points are the basic unit that constitutes the behavior of the game. Points are used to quantify the behavior of the player in various dimensions of integrity, which is reflected in the quantitative score of the attribute value of the character.

In the game process, the player can view the change of the integrity attribute value of the game character in real time, and maintain the inspection and reflection of the game behavior under the influence of metacognition. After the game is over, these data collections that monitor the player's integrity status contain a large amount of user information, which can extract the user's behavior habits and interest preferences, form the user's integrity role portrait, analyze the feedback to the player's personalized integrity behavior guidance, and urge Players adjust their behavior in real life and make corresponding adjustments. Players pay time and effort in the game, and the game needs real-time feedback to enhance the sense of order and self-identity, and to reduce the black hole feeling of no feedback.

2) *Reward and error correction mechanism*: The game can't exist without the reward. The reward system and the character growth system are powerful internal driving forces for the game. Points, Badges visualizes the reward system, provides players with game goals and paths, and guides

players to enhance their identity recognition and proof of ability. Badges is a collection of Points, a visual achievement that shows the progress of the player in the course of the game[7]. In the character growth system, the player's positive behavior is often accompanied by a number of material rewards, which are implemented in the money system, prop system, life system, and combat system. As the character's game level is higher, the game rewards obtained are higher. Integrity moral education games should have an achievement model design for honesty, credit, trust and responsibility. We will award the achievement medals to the players who receive the corresponding ratings, in order to recognize the positive performance of the players in all dimensions of integrity, and summarize the game state of the players. Skinner's Operational Conditional Reflex Theory states that if an operation is followed by an intensified stimulus, its intensity will increase [8]. This is also the core motivation of the incentive mechanism. Continuing to strengthen the stimulation of behavior on the basis of behavior occurrence will increase the tendency of behavior response.

The metacognitive role encourages the player group to generate a sense of freedom in the process of pursuing character growth and uncertain rewards, and to examine the necessity and rationality of self-action. The positive feedback of visualization will provide more intense stimulation signals to the brain, thus affirming and encouraging existing cognitive activities, guiding self-awareness to make integrity behaviors in line with social norms, deepening behavioral inertia and forming solidified cognition. Moral education games are mainly based on positive reinforcement incentives, and will be punished unless there is a major untrustworthy behavior, which is highly fault-tolerant. User behavioral portraits generated based on game data analysis can reveal more hidden information. Untrustworthy punishment and behavioral suggestions are the main ways of gamification error correction mechanism. The role of punishment is deterrence. The influence of metacognition will enhance the monitoring and adjustment of untrustworthy behavior. Players will also receive pressure warnings and behavior suggestions from the brain to make timely self-correction and adjustment.

Negative choices of players in an unconscious state may evade metacognitive scrutiny. If the player's original integrity value cognition system has loopholes, or the original behavior habits are hidden under the game results, metacognition may not be able to effectively play the role of self-perception testing. The theory of broken windows in psychology suggests that any subtle adverse factors cannot be left unchecked, especially in dishonest behavior. The brain gives the same feedback to the same thing or behavior in the same or similar situation. Once the untrustworthy behavior is cured as a habit because it is not corrected in time, the consequences are difficult to predict.

3) *Flow experience promotes behavioral habits*: Mihaly Csikszentmihalyi believes that flow is the mental state of a person when he is concentrating on a certain behavior[9]. The production of flow generally requires clear goals, rules and feedback, which is in good agreement with the elements of game design. Therefore, game is also an activity that is prone

to produce flow experience. To cultivate players' integrity by role-playing games, first of all, we should set clear goals of integrity education and rules of integrity games, so that players can quickly enter the game state, which is the premise of the game flow experience. Secondly, real-time feedback can keep players' attention focused on the game situation and help them gain immersion experience.

The ultimate goal of game design is to cultivate integrity behavior, not only the occurrence of behavior, but also the maintenance of behavior. Maintenance of behavior is the embodiment of behavior control, and a more popular understanding is the formation of behavior habits. The production of flow not only makes players in a state of higher concentration, but also can get positive psychological feelings such as excitement and enrichment. Flow experience can enable players to maintain full concentration in the process of moral education games, promote cognitive efficiency, and transform positive psychological feelings into recognition of integrity. When flow experience occurs, players are unwilling to be disturbed by the outside world and resist interruption of game behavior. In the game of Integrity Moral education, this strong sense of immersion may be partly transformed into the persistence of integrity belief. The integrity cognition formed in the game may extend to the life behavior outside the game and promote the formation of integrity habits under the function of time.

### III. THE SIGNIFICANCE AND VALUE OF CHARACTERIZING AND FOSTERING INTEGRITY BEHAVIOR

With the digital media platform, characterization can be presented in a video game media. With its flexibility and fun, video games have become a value-transmitting carrier widely welcomed by young people, providing a good training path for characterizing and fostering integrity behavior. Integrity moral education game design strategy with the four elements of integrity as the core, play the genre advantage of RPG games, integrate integrity education into the game, entertaining and entertaining. However, the scope of application of the role is not limited to the role of the game, it is also applicable in other educational environments. In addition to video games, the role of characterization can also be introduced in the general integrity moral education context, and non-gaming audiences can also accept innovative and effective integrity education.

The game is not only a carrier of electronic games. For example, in the educational environment of family education and classroom teaching, gamification and role education can also be carried out for the goal of integrity education. As the designer of educational games, parents and teachers should deal with the content of integrity education, and display the values and behaviors of integrity in the form of role images and stories to create a fun and interesting educational atmosphere, thus fully arousing learners' emotional resonance and rational identity for integrity.

For the cultivation of integrity, characterization is not a negative concept, not a collection of labeling and profiling, but an assimilation process based on role learning and social requirements. Modern society advocates the development of individuality, pursues the expression of alienation, and the role

can meet the diverse needs of individuals. Integrity is a common principle, and the role of cultivating integrity can achieve a balance between respecting individual development and adhering to common principles. The characterized approach gives the original educational content to the characteristics of humanization and life, and closes the distance between the goal of integrity education and the educated, so that learners have a sense of substitution when accepting integrity and education, and it is easier to take the experience accumulated in life is combined with it, so that it can quickly enter the state of observing the principle of good faith.

Characterized not only provides a model for education, but also provides the possibility of trial and error. For the judgment of integrity, we cannot adopt the binary oppositional thinking mode, but make the correct value choice according to the specific practice. Factors such as temptation, fear, curiosity, etc. may change an individual's current integrity choices, but this does not mean that he completely loses the quality of integrity. The characterized education of integrity helps to simulate the real stress environment, preview the integrity activities close to the learner's life, embrace the dynamic process of personal integrity, cultivate learners' practical experience in dealing with the integrity test, and prepare for the subsequent correct choice of integrity value in real life. Attempts to conduct honesty and dishonesty with role identities in educational activities can help learners to establish a sense of borders, to understand the differences in the tolerance of integrity behaviors in different situations, and to further understand the norms of integrity behavior. In the role-based education activities, the lack of un-integrity is also restricted by the rules of the situation. Eventually, the participants are guided to implicitly internalize the integrity of the characters displayed into their own values and conduct integrity activities.

### REFERENCES

- [1] Gong Hanzhen, Liu Xiang, Xue Gang, et al, Socialist core values Key words: Integrity [M]. Renmin University of China Press, 2015.
- [2] Wu Jixia, Huang Xiting, "A Preliminary Study on the Structure of Honesty,"[J] Acta Psychologica Sinica, vol. 44, no. 03, pp. 354-368, 2012.
- [3] Yu Haibin, Research on government function positioning in social credit management system [D], 2009.
- [4] Zhang Shan, "Exploring the improvement of organizational execution ability from the perspective of psychology," [J] Management: Academic Edition, no. 3, 2014.
- [5] Feng Ming, Yuan Quan, Jiao Jing, "An Empirical Study on the Relationship between Responsibility and Performance Structure of Enterprise Employees,"[J] Science Decision, no. 01, pp. 1-14, 2012.
- [6] Wang Kun, Strategies for promoting reading metacognition in the network environment [D]. Hebei University, 2008.
- [7] Ye Yin. Research on gamification design of self-health management products for patients with hypertension [D]. Zhejiang University of Technology, 2017.
- [8] Skinner, B. F. "Operant behavior," [J] American Psychologist, vol. 18, no. 8, pp. 503-515, 1963.
- [9] Csikszentmihalyi M(1990). Flow: The Psychology of Optimal Experience[M]. New York: Harper&Row.