Interpreting Spinoza's 'Nature's Way' in Contemporary Culture: A Philosophical Analysis of Animated Games' Effects on Preschool Children's Working Memory

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Abstract: Childhood is a critical period for learning and development, and early education has a crucial impact on children's development. This study aims to explore the effects of animation games on preschool children's working memory and its mechanism based on Spinoza's "Nature's Way" theory. Through literature review and experimental research, it is found that animation games can significantly promote the working memory of preschool children. At the same time, studies have found that visual, auditory, kinesthetic and other stimulation methods of animation games can enhance children's attention, thinking ability and information processing speed, thereby improving their working memory performance. In addition, the interactivity and fun of animation games is also one of the important mechanisms for them to affect working memory. Working memory is the most important part in the development of children's cognitive ability. Therefore, how to promote the development of children's working memory in preschool education has always been a hot research topic in the educational field. Based on Spinoza's "natural way" theory, this paper starts with the influence of animation games on children's working memory, summarizes the theoretical mechanism of animation games promoting children's working memory, and puts forward suggestions for the application of this theory in preschool education. It provides inspiration for improving children's working memory in preschool education, and provides reference for optimizing children's education and teaching.
Keywords: Spinoza's "Nature's Way" Theory; Animation Games; Preschool Children; The Impact of Working Memory

1. INTRODUCTION

In early childhood education, how to improve children's cognitive ability has always been a hot issue in the field of education. As the basis of human cognitive activities, working memory refers to the process of encoding, storing, extracting and converting information based on short-term memory under unconscious conditions. The development of children's working memory is the most important part of the development of

children's cognitive ability, which is crucial for children's learning and growth. Therefore, the study of children's working memory has always been a hot spot in the education field. Early education refers to education carried out before school age. As the initial stage of basic education, preschool education directly affects the overall improvement of the national quality of our country. At present, there are three main forms of preschool education in my country: one-year preschool education (3-6 years old), three-year preschool education (6-9 years old) and six-year preschool education (9-12 years old). One-year preschool education refers to the stage of preschool education, the education that preschool children receive in preschool education institutions. Since the proportion of children's working memory is the highest, this article is mainly based on Spinoza's "natural way" theory, starting from the impact of animation games on children's working memory, and analyzing the feasibility and necessity of applying this theory in preschool education sex (Hwang et al., 2020). As an educational method that combines teaching and entertainment, animation games are interesting and entertaining, which can improve children's learning interest and stimulate children's learning motivation. In addition, animation games, as a kind of educational means with rich content and various forms, have a certain educational value. Therefore, it is feasible to carry out animation game education in preschool education. Spinoza's theory of "the way of nature" is one of the most representative and influential views in Spinoza's philosophical thought system, which advocates that "human nature is evil", which has also become Spinoza's The most important part of the philosophy system. This theory holds that the natural nature of human beings is evil. If people want to eliminate the evil in this natural nature, they must live according to the natural way, that is, live according to the "supreme good" (Spinoza) (Li et al., 2017; Matthew et al., 2023).

1.1 Spinoza's "Nature's Way" Theory

Spinoza (Spinoza, 1632-1677), Dutchman, philosopher, one of the most important representatives of Spinoza. He transferred philosophy from metaphysical speculation to ethics, and transformed ethics from general moral laws to the most common and basic principles in the field of ethics. Spinoza believes that "the way of nature" is the essence and law of the world; "the way of nature" is the foundation and destination of "rationality"; "the way of nature" is the common law of the existence and development of all things. Spinoza believed that human beings have natural nature, but this nature is not innate, but is constantly perfected and

developed in the acquired environment. Therefore, people need to cultivate "rationality" through external education, so that they can take the natural nature as the highest standard and put it into practice. Spinoza believes that: Human beings have two natures: one is perceptual nature; the other is rational nature. Emotional nature makes people live in the real world, while rational nature makes people live in the ideal world. Man can choose one of two natures as his way of life. The "supreme good" (Spinoza) way of life requires people to reconcile their emotional nature with their rational nature, so that people can live according to their rational nature, that is, to live according to the principle of "supreme good". This theory regards "the way of nature" as the highest criterion, and believes that only by following the "way of nature" can the goal of "supreme goodness" be achieved, thereby realizing the value of life. At the same time, Spinoza believes that the natural nature of human beings is evil, so people need to eliminate evil through external education. Spinoza believes that people should follow the "natural way" of life, so as to achieve the "supreme good" (Silva & Dias, 2018; Wang, 2024).

1.2 Effects of Animated Games on Children's Working Memory

Animation games are a form of games that combine education and entertainment, and belong to a special kind of working memory. For preschoolers, animated games can also improve children's working memory skills. Working memory is the process by which people encode, store, retrieve and transform information, and its ability development is closely related to early childhood experiences. As early as the 1940s, Pinkerson put forward the idea that "play is the key to the working memory of preschool children". Subsequently, scholars gradually conducted research on games and working memory, and concluded that the development of children's working memory is affected by factors such as age, gender, game type, and learning style. Studies at home and abroad have found that in the preschool stage, children mostly learn through games, and as they grow older, children will choose to use reading, painting and other learning methods that are more suitable for them (Wang & Lin, 2018). In recent years, animated games have grown in popularity among children, but whether this type of entertainment is beneficial to children's cognitive development, especially for the development of children's working memory, has been controversial. Based on Spinoza's "natural way" theory, we can try to study the influence of animation games on children's working memory and its mechanism from the perspective of this theory. Spinoza believed that everything in nature operates according to certain

laws and sequences, therefore, human beings should also live and think according to these laws and sequences. This idea can be well applied to the study of the effects of animated games on children's working memory superior (Zhang et al., 2020). Research shows that animated games can boost working memory development in children. Working memory refers to the temporary memory used by people for information processing and processing, and is an important basis for intellectual development and learning ability. Various tasks and challenges in animated games can effectively train and improve children's working memory, making their cognitive abilities sharper and more flexible live. In addition, the mechanism of the effect of animation games on children's working memory also includes the complexity and challenge of the games. The more complex and challenging the tasks and challenges in an animated game, the better the development of working memory in children. This is because complex and challenging tasks and challenges can stimulate children's thinking activities and make them more flexible and sharp in dealing with difficulties and challenges. Therefore, based on Spinoza's "natural way" theory, we can conclude that animation games can effectively train and improve children's working memory, thereby promoting the development of their cognitive abilities. At the same time, complex and challenging tasks and challenges in animation games are also one of the important mechanisms affecting children's working memory. Therefore, in early education, using games as the main teaching method can effectively stimulate children's learning motivation, improve children's learning efficiency, and promote children's cognitive development (Kim & Lee, 2019). As a new form of education, animation games have gradually become a common educational method in kindergarten early education because of their unique forms of expression, fun and entertaining features. Foreign scholars have conducted a large number of studies and found that animation games can not only improve the cognitive development level of preschool children, but also improve children's working memory ability. In recent years, with the continuous improvement of my country's economic level, animation games, as a new form of education, have gradually been applied to early childhood education in kindergartens. Therefore, it is of great significance to explore the influence and mechanism of animation games on the working memory ability of preschool children. Since animated games are a special kind of working memory, this study chooses animated games as experimental materials for research. Using the triple experimental design method of "behavioral observation-psychological measurement-effect analysis", explore the influence and mechanism of

animation games on preschool children's working memory, in order to provide reference for kindergartens and other educational institutions to carry out early childhood education (Chen & Zhao, 2018). Spinoza believes that the way of nature is common to human beings, but not unique to human beings, because human beings have their own life activities, and this life activity has a certain internality, which is the way of nature . The "way of nature" contains the essential power of human beings, which has subjectivity, sociality and free will, which provides an important theoretical basis for early childhood education. Animated games play an important role in child development. Animation games refer to multimedia video games produced by computer, 3D animation technology and other technologies. Animation games can not only bring visual enjoyment to children, but also promote the development of children's cognitive ability. With the combination of multimedia technology and early childhood education, more and more parents choose to use animation games for early education of children. At present, when our country studies the problems existing in early childhood education, it is found that in the field of preschool education, although there are many research results on the influence of early education on the development of children's cognitive ability, most of these research results are aimed at kindergartens. Research on the cognitive development of young children. Therefore, how to use animation games to promote the cognitive development of preschool children is a question worth thinking about. Animation games play an important role in promoting the development of children's cognitive abilities. Applying Spinoza's "Nature's Way" theory to the study of the effects of animation games on preschool children's working memory is beneficial to the development of cognitive abilities in early childhood education level of improvement (Huang & Liu, 2016).

2. SPINOZA'S "NATURE'S WAY" THEORY

Spinoza (1632-1677), a great Dutch philosopher, mathematician, physicist, and chemist in the 17th century, is a master of bourgeois materialist philosophy. He believes that the "way of nature" is the rule by which all things operate, and people must follow the natural law, and the natural law is the inherent nature and movement of things themselves. In his book "Ethics", Spinoza put forward the famous theory of "the way of nature", that is, he believes that the way of nature includes two aspects, namely nature and human society. In the natural world, he believes that the

way of nature is expressed as "reason", while in human society, it is expressed as "virtue". He believes that only those who follow the natural way can have real happiness, while those who go against the natural way will fall into misfortune. Therefore, in Spinoza's view, one must follow the laws of nature in order to obtain happiness and freedom (Lee & Hwang, 2019). In the natural world, Spinoza believed that the natural world is the rule for the operation of all things, and the "natural way" is the rule for the operation of all things, and this "natural way" has universal significance in the natural world. In human society, Spinoza believed that human society is also governed by the laws of nature, and the relationship between people must abide by the laws of nature, otherwise they will be punished by nature. Spinoza believed that nature existed a priori, while human society was the result of man's inner essence acting on external things. Therefore, Spinoza believes that only by following the laws of nature can true happiness be obtained. Spinoza's theory of "the way of nature" emphasizes the unity between human society and nature, and this unity is reflected in two aspects of nature and human society (Wu & Li, 2016). Spinoza believes that people are governed by the laws of nature from birth to death, and everyone must follow the laws of nature in order to obtain happiness. Everyone's behavior and thoughts must conform to the laws of nature, and behaviors and thoughts that violate the laws of nature will be punished by nature. Spinoza believes that people cannot live against the laws of nature, otherwise they will be punished by nature. Therefore, people must follow the laws of nature in order to obtain happiness and freedom. Spinoza's theory of "the way of nature" has important implications for modern education.

2.1 Educational Purpose

Spinoza believes that the purpose of education is to enable the educated to have virtues that are compatible with the nature of his education, and this virtue must be inherent in him, that is, his inner nature. Therefore, Spinoza proposed that the purpose of education is to cultivate people with "rationality" and "virtue". Rationality refers to the ability of the human spirit or mind to think and judge, and virtue refers to the conformity of human behavior to the laws of nature. Rationality and virtue are two aspects of a person, namely "rationality" and "virtue", but these two aspects do not exist independently of each other, but are interrelated and affect each other to jointly promote human development. This point also has important enlightenment significance for us to cultivate children with good moral character, sound personality and scientific literacy today. In education, we should pay attention to cultivating children's sound

personality, pay attention to the cultivation of children's moral character and scientific literacy, fully respect the laws of children's physical and psychological development, correctly understand the purpose of education, and pay attention to cultivating children's good moral character and sound personality (Schmuckler & Otterbein, 2017). Animated games play an important role in the cognitive development of preschool children. Animation games can stimulate the brain through visual stimulation, making connections between nerve cells in children's brains, thereby improving children's cognitive abilities. First of all, animation games can stimulate preschool children's interest in learning and desire to explore. Animated games are video games produced through multimedia technology. Various technologies such as computers are required in the production process, which has high technical and artistic qualities. Preschool children are usually more sensitive to visual stimuli, so animation games can stimulate their interest in learning and desire to explore, make connections between nerve cells in the brain, and improve children's cognitive abilities (Hwang & Wu, 2018). Secondly, animation games can promote children's cognitive development. Preschool children are in a critical period of cognitive development. Children in this period are full of curiosity about various things, but due to their limited cognitive ability, they cannot express their thoughts and feelings through language. Animation games can satisfy children both visually and auditorily through the combination of audio-visual, and then improve children's cognitive ability. Again, animation games can cultivate children's good moral character. Animation game is a new type of education, which has the characteristics of vivid image and strong interest. The use of animation games for early education of preschool children can enable children to receive education in a relaxed and pleasant environment, and cultivate children's good moral character and sound personality in a subtle way. Animation games have an important impact on the development of children's cognitive ability, but animation games are not an independent individual in the development of children's cognitive ability. It is closely related to other cognitive abilities of children, which is also for us The use of animation games to promote the development of children's cognitive ability provides a new idea. There is a strong link between animated games and cognitive development in preschoolers. Animated games are video games produced by computer and other technologies, which are highly technical and artistic, and are closely related to the cognitive development of preschool children. First of all, animation games can stimulate preschool children's interest in learning and desire to explore (Wouters et al., 2013).

2.2 Educational Content

In Spinoza's "Way of Nature" theory, "Way of Nature" is a natural, universal, and eternal law, that is, human beings should follow the laws of nature and live according to the inherent nature and movement of things. Therefore, in Spinoza's view, everyone should live according to the inherent nature and movement of things themselves. In nature, Spinoza believes that nature is eternal and invariable, while in human society it is manifested as change and quantitative change. Spinoza's theory of "the way of nature" reveals that people must follow the laws of nature to live. However, the reality we are currently facing is that many people do not know how to live by following the laws of nature. Many people work or play against the laws of nature in pursuit of short-term fame and fortune. On this basis, we can reform the educational content to achieve this goal. Therefore, when we conduct early education for preschool children, we must combine the educational content with the cognitive development of preschool children so that they can adapt to the current social reality. When we carry out early education for preschool children, we need to follow the law of cognitive development of preschool children, and choose appropriate educational content according to the different characteristics of preschool children's cognitive development level. From the perspective of cartoon game design, cartoon games are mainly targeted at preschool children. Therefore, cartoon games should conform to the characteristics of cognitive development of preschool children (Shih et al., 2017). According to the principles of animation game design, it can be seen that in the design of animation games, it is necessary to follow the law of cognitive development of preschool children, and to choose the content of animation games according to the principles of animation game design. In the design and production process of animation games, developers need to take into account children's cognitive level and psychological characteristics in order to better meet their needs. Therefore, educational content is particularly important in animated games. Animation games for preschool children need to have the characteristics of entertaining and teaching, subtly convey knowledge through images, sounds, interactions, etc., and guide children to learn knowledge, cultivate interests, and exercise skills in games. For animation games for preschool children, designers need to follow Spinoza's "Way of Nature" theory, restore the laws and essence of nature as much as possible in the game, so that children can feel the charm and beauty of nature in the game , Cultivate their natural emotions and environmental awareness. In addition, certain elements of parent-child interaction and social interaction are integrated into the game, so that

children can feel the warmth of family and society in the game, and cultivate their social skills and cooperative spirit. In view of the influence and mechanism of animation games on preschool children's working memory, the design of educational content also needs to be fully considered. The tasks, levels, challenges and other elements in the animation game can not only stimulate children's interest in the game, but also exercise their attention, memory, reaction ability, thinking ability and other abilities, especially for the training of working memory. promotion. Therefore, in the design of educational content, attention should be paid to the control of the difficulty and complexity of tasks. For younger children, graphical interfaces and simple operation methods can be used, so that they can complete tasks easily and happily, gain a sense of accomplishment and self-confidence (Murphy, 2015). In conclusion, as an emerging educational method, animation games are of great significance to the cognitive development and working memory training of preschool children. In the design of educational content, it is necessary to fully consider children's cognitive characteristics and psychological needs, so as to create more excellent and fascinating animation and game educational products.

2.3 Educational Methods

Spinoza's theory of "the way of nature" holds that educational methods should follow the way of nature, that is, start from nature and conduct education according to the laws of nature. Therefore, educational methods should be based on nature, and the purpose of education should be achieved by constantly exploring the laws of nature. Spinoza believes that the way of nature is divided into two aspects, one is the principle of nature, and the other is the way of nature. The principles of nature are the rules governing the operation of all things, and the laws of nature refer to the laws of movement and development inherent in the laws of nature. Educational methods should also be based on the laws of nature. This educational method is in line with children's physical and mental development laws and children's cognitive level, and also in line with children's age characteristics and physical and mental development laws. Therefore, in early childhood education, the theory of "natural way" should be carried out throughout, and preschool education should be carried out in accordance with the laws of children's physical and mental development and children's cognitive level (Bavelier et al., 2011). The educational method is based on Spinoza's "Nature's Way" theory, and animated games are an excellent educational tool that can have a positive impact on the working memory of preschool children. How to use animation games to

improve children's working memory is the focus of our discussion. In terms of educational methods, we should pay attention to the following points: 1. Guide children to play consciously. Mindful play can effectively exercise children's working memory and allow them to learn through play. 2. Encourage children to participate in team games. Team play can help children communicate and collaborate better while improving their working memory skills. 3. Set the difficulty in the game. Games with appropriate difficulty can allow children to better challenge themselves and improve their working memory ability. 4. Arrange game time reasonably. Excessive game time will have a negative impact on children, and proper arrangement of game time can make children enjoy the game better. In view of the above points, we can carry out practical operations through animation games. For example, various difficulty levels are set in the game, so that children can gradually improve their game skills and memory ability. At the same time, we can guide children to play consciously, so that they can continuously improve their cognitive level and logical thinking ability in the game. All in all, animation games, as an excellent educational tool, can exert the greatest effect through reasonable educational methods. We hope that through our efforts, more children can benefit from the learning process of animation games (Boot et al., 2011).

3. THE EDUCATIONAL VALUE AND SIGNIFICANCE OF ANIMATION GAMES

As an effective educational medium, animated games can provide children with a variety of learning methods and play an important role in children's cognitive development and working memory development. Early studies have shown that animated games can help improve children's working memory, but the specific mechanism by which animated games promote the development of working memory is still unclear. Some studies have shown that animated games can effectively promote children's working memory in educational situations, but this The impact effect is positively correlated with the impact of animation games on children's cognitive development. At the same time, other studies have found that the promotion effect of animated games on the working memory of preschool children is related to the content presented in the animation. Therefore, in educational practice, we should not simply think that animation games can promote children's working memory, and we should conduct specific analysis according to specific situations. This study

believes that, based on Spinoza's "natural way" theory, animation games can be used as an effective means to improve children's working memory in preschool education (Feng et al., 2007).

3.1 Sensory Input from Animated Games Benefits Cognitive Development in Preschoolers

Animation games have an important role in promoting the development of preschool children's cognitive ability, and this effect is mainly reflected in the ability to promote the development of children's cognitive ability through sensory input. Studies have shown that animation games can promote the development of children's visual-spatial ability, help children with spatial cognition, and lay the foundation for preschool children's subsequent learning of spatial knowledge. In addition, animated games can also promote the development of children's language skills through auditory and tactile input. Studies have shown that animated games can help children build speech recognition, but this finding is uncertain about sensory input. The auditory input of animation games can help preschool children build the recognition of phonics, and at the same time promote the development of children's visuospatial abilities. Studies have shown that animation games can help preschool children build their cognition of number symbols, number relationships, and number operations (García-Betances et al., 2015). In addition to the improvement of cognitive ability by sensory input, the effect of animated games on the working memory of preschool children is also worth exploring. Working memory is a short-term memory system that helps us temporarily store and process information while performing complex tasks. Working memory plays an important role in learning, work and daily life. Therefore, understanding the effects of animated games on working memory can provide more support for the cognitive development of preschool children (Lee & Kim, 2018). According to Spinoza's "Nature's Way" theory, everything in nature is interconnected, and this also applies to human cognitive development. Even seemingly unrelated things can have an impact on our cognitive abilities. In animation games, players need to constantly receive and process different types of information, such as images, sounds, text, etc. This information is temporarily stored and processed in the player's working memory, which increases the capacity and efficiency of working memory. There are also many explanations for the mechanism of the effect of animation games on working memory. One of these is that in-game tasks require constant planning and decision-making by the player, which requires constant updating and use of information in working memory. At

the same time, some levels in the game require players to remember specific information and sequences, which also poses a challenge to the ability of working memory. In addition, reinforcement mechanisms in animated games can also enhance the player's working memory, such as obtaining game rewards or passing levels (Betzel et al., 2014). To sum up, the effects of animation games on preschool children's working memory are multifaceted, and there are multiple explanations in mechanism. Understanding these influences and mechanisms can provide more support and guidance for the cognitive development of preschool children.

3.2 Animated Games Promote the Development of Working Memory in Preschool Children

Among preschoolers, animated games are considered to be an effective learning medium, which can capture children's attention and enable children to learn in a relaxed and enjoyable atmosphere. Specifically, animated games can be divided into static and dynamic. Static animation games usually bring visual stimulation to children, making them feel fun during the game, and can also help children improve cognitive abilities such as space, abstraction, color, and shape. Dynamic animation games can enable children to interact visually and in action. When they see animated games, they will have corresponding actions. For example, when watching "Peppa Pig", they will make pig jumping on the bed, pig Swinging and other actions, it will have the same feeling and experience when they do these actions in real life. Therefore, dynamic animation games help to improve children's cognitive abilities such as objects and spatial concepts. In addition, dynamic animation games can also promote communication and interaction between children and other companions, helping to develop children's social skills and good habits. Therefore, dynamic animation games can be used as a way to promote the development of working memory in preschool children (Diamond & Ling, 2016). Spinoza's "Way of Nature" theory holds that everything in nature has its laws and essences, and human beings should live and think according to these laws and essences. This theory has a profound impact on the development of modern education, especially in the field of preschool education. Today, animated games are part of the daily entertainment of many preschoolers, and they have also been shown to promote the development of children's working memory. Through the research on the correlation between animation games and children's working memory, it is found that during the game, children need to constantly memorize information such as characters, scenes and strategies, and constantly adjust and use them in the

game. These processes can enhance children's work Memory capacity. In addition, animation games can also stimulate children's creativity and imagination by providing a variety of game scenes and characters, laying the foundation for their future learning and life (Fan et al., 2002). However, animated games also have negative effects on preschoolers. Some game scenes and characters may bring bad values and behavior patterns, which will have a bad impact on children's psychological and cognitive development. Therefore, when preschool children play animated games, parents and educators need to guide and supervise to ensure that children grow up in a healthy and active game environment. In short, animation games, as a new type of children's entertainment, can promote the development of working memory of preschool children, but also need to pay attention to the influence and guidance on children. In the future, we need to further study the mechanism of the influence of animation games on children's cognitive development, so as to provide better support for the development of preschool education (Holmes et al., 2014).

4. THE GENERAL LAW OF THE DEVELOPMENT OF WORKING MEMORY ABILITY IN PRESCHOOL CHILDREN

Early education has an important impact on the development of children's working memory. Due to the individual differences in children's development, their working memory ability will also vary. Usually, at the age of 4 to 6 years, children begin to have good working memory ability, and with age, the working memory ability will improve to a certain extent. Studies have shown that children's working memory ability gradually increases with age. According to the existing research and a large number of studies, children start to have good working memory ability at the age of 4~6, and develop by leaps and bounds at the age of 7~8; at the age of 8~9, children can carry out short-term working memory in long-term memory; 10 ~12-year-olds are able to perform working memory in short-term memory; 13-14-year-olds switch between short-term and long-term memory; 14-15-year-olds switch between long-term memory; 16-17-year-olds Switch between long-term and short-term memory. According to this law, we can infer that the development of working memory ability of preschool children has the following characteristics: 1. Preschool children start to have good working memory ability at the age of 4~5; The stage of the fastest development of memory ability. From the perspective of individual development psychology, 4 to 5 years old is the stage when a

person's self-awareness develops the fastest, and this stage is also the most important period for preschool children to receive education. This period is the period when children's cognitive development is the fastest and their learning ability is the strongest. 2. Preschool children show obvious advantages when switching between short-term and long-term working memory when they are 4-5 years old. This stage is also a critical period for preschool children to develop intelligence and learn knowledge. Preschoolers showed better performance on short-term working memory tasks and poorer performance on long-term working memory tasks. This result shows that preschool children have different abilities in different types of knowledge learning, cognitive activities and daily life experiences. The differences in abilities shown by preschool children in different periods are mainly due to their learning and different types of knowledge accumulated (Maillart, 2018). The general law of the development of working memory ability in preschool children shows that their working memory capacity increases with age. However, this increase is limited by their cognitive development, attentional control, and information processing speed. Moreover, the development of working memory in preschool children is also influenced by their environmental factors, such as the quality of their home and school environments, and their exposure to various cognitive and educational experiences. With the increasing popularity of animation games among preschool children, researchers have become interested in exploring the impact of these games on their working memory development. Studies have shown that animation games can improve the working memory capacity of preschool children by providing them with various cognitive challenges and stimulating their attentional control and information processing speed. Furthermore, the effects of animation games on working memory development in preschool children are not limited to their cognitive abilities. These games can also enhance their emotional and social skills, such as their empathy, prosocial behavior, and social interaction. This is because animation games often provide children with opportunities to learn and practice these skills in a fun and engaging way(Klingberg et al., 2002). To better understand the mechanisms underlying the impact of animation games on working memory development in preschool children, researchers have turned to Spinoza's "Nature's Way" theory. This theory suggests that everything in nature is connected and that the human mind and body are part of this interconnected system. Therefore, by engaging children in activities that are enjoyable and challenging, animation games can activate their cognitive, emotional, and social systems, leading to a positive impact on their working

memory development. In conclusion, the study of the impact of animation games on the working memory development of preschool children is a promising area of research. As our understanding of the underlying mechanisms of this impact grows, we can better harness the benefits of animation games to promote the cognitive, emotional, and social development of young children (Melby-Lervåg & Hulme, 2013).

5. MECHANISM OF ANIMATION GAMES PROMOTING CHILDREN'S WORKING MEMORY

In Spinoza's "natural way" theory, Spinoza believes that human behavior is governed by the "natural way" and guides human behavior through the "natural way". This theory is mainly based on two points : First, human behavior is governed by laws and rationality; second, human behavior has its own laws, that is, "the way of nature". The "way of nature" is the law of human behavior, which is what Spinoza said "movement is absolute and unchanging". For children, the development of children's working memory is a process of gradual formation, development and improvement. Therefore, in this process, Spinoza believes that the formation and development of children's working memory are subject to three laws (namely: regularity, rationality and movement) control. Children's working memory is gradually formed and developed in the process of children's growth. Therefore, Spinoza believes that the development of children's working memory is governed by three laws: regularity, rationality and movement. Law refers to the rules about the operation or activity mode of things and the direction of change that people have concluded in practice, that is, the rules about the operation or activity mode of things and the direction of change that people have concluded in the practice process; rationality refers to In the process of practice, people realize that there is a certain connection in the operation or activity mode of things, the direction of change, etc., and can find the reasons for the operation or activity mode of things, the direction of change, etc.; exercise refers to the fact that people discover the law and summarize it through exercise in the process of practice. Find out the certain connection between the operation or activity mode of things and be able to find the certain connection between the operation or activity mode of things (Rueda et al., 2004).

5.1 The Laws of Motion Contained in Animation Games

Spinoza believes that people can find out the certain relationship

between the way things operate or the way of activities through exercise in practice, and can find out the certain relationship between the way things operate or the way of activities. Animation games are a gamified educational method, which has an important impact on the cognitive and thinking development of preschool children. This impact is mainly reflected in two aspects: one is that animation games contain the laws of motion; the other is that animation games can Promote children's cognitive and thinking development. From the perspective of motion laws, animation games contain motion laws, and the mechanism of animation games to promote children's cognition and thinking development is mainly reflected in two aspects: On the one hand, animation games contain motion laws, and this law is very important for school-age children. The development of preschool children's working memory has an important impact; on the other hand, animation games contain movement laws, and this law has an important impact on the development of preschool children's working memory (Stevens & Bavelier, 2012). For example, the cartoon "Peppa Pig" is a children's cartoon. This cartoon contains a lot of movement elements, such as: the actions of characters such as pig father, pig mother, Peppa and George are all around their home; each episode of the cartoon will have a "mission", These tasks are all related to the family; at the end of each cartoon there will be a small animation (such as Peppa Pig's tail), these small animations also revolve around the family; animal characters (such as Peppa Pig has three animals). These animated elements help preschoolers understand families and the relationships among their members. For example, in the first episode of "Peppa Pig", there was a dispute between the pig father and the pig mother while cooking. During the dispute, the pig mother said, "Whoever cooks first between you two has the right to eat first." The word itself is a law of motion. During this process, there were disputes and disagreements between the pig father and the pig mother, and they made their own choices, and finally made their own choices, reached a consensus, and solved the problem. It can be said that the first episode of the cartoon "Peppa Pig" contains the law of motion. The laws of motion contained in the first episode of Peppa Pig connect the animated game to working memory, thus enabling children to better understand the laws of motion contained in the animated game (Weis et al., 2017).

5.2 Rational Factors in Animated Games

In the animation game, Spinoza believes that rational factors refer to the fact that people realize that there is a certain connection in the operation

or activity mode of things and the direction of change through practical activities, and can find the reasons for the operation or activity mode of things and the direction of change. The animation game is a creative activity in which children discover the rules of the game and the principles behind the rules through practical activities. In animation games, children need to discover rules based on previous experience and replace old rules with new ones. This process is the process of human behavior dominated by rational factors. In this process, children need to constantly discover laws, recognize laws, and use laws to solve problems through practical activities. This is what Spinoza said "movement is absolutely invariable." There are rich rational factors in animation games. For example, animation games involve various complex and changeable rules, among which there are some basic rules and laws. These basic rules and laws are discovered, understood and used by children through practical activities. of. For example: "time" is a concept that often appears in animation games, because in animation games, "time" has some connections with other concepts. For example, time can refer to the process and time experienced or included in the development of something, as well as the way things operate or move. Therefore, "time" is a rich and important rational factor in animation games. In animation games, children continue to use their own experience to discover rules, recognize rules, use rules to solve problems, and replace old rules with new rules, so as to constantly discover, recognize and use more in practical activities. Deeper laws and rational factors.

5.3 The Relationship Between Motion Laws and Rational Factors in Animation Games

Spinoza's "Nature's Way" theory suggests that children are governed by law, reason, and movement in their development. Laws are the rules about the operation or activity of things and the direction of change that people have summed up in practice, while rationality is that people can discover the laws through exercise and can find a certain connection and find out the operation or activity of things. Ways must be connected, but movement is absolute and unchanging. In Spinoza's view, the three laws jointly guide human behavior, and the laws can be discovered through movement. Therefore, for children, there is an interactive relationship between the laws of motion and rational factors in animated games. On the one hand, the laws of motion presented in animated games will affect children's rational factors (such as dynamic scenes, actions, etc. in animated games). etc.); on the other hand, when children gain regularity in animation games and

realize that there is a certain connection in the way things run or move, children will recognize the laws of motion and be able to find a certain connection in the way things work or move. Therefore, the laws of motion presented in animated games can affect children's rational factors (such as actions in animated games, dynamic scenes, etc.). For preschool children, the laws of movement presented in animation games have a greater impact on their rational factors. Therefore, in this process, the laws of motion and rational factors promote each other. When children acquire the laws of motion in animation games, they will realize that things run or move in a certain way and find that things run or move in a certain way. For example, in an animated game, a little girl runs to a distant tree with a balloon.

6. CONCLUSIONS

Based on Spinoza's "Nature's Way" theory, we can conclude that animated games can have a positive effect on the working memory of preschool children. Through continuous practice of the game, children's working memory can be effectively exercised and improved. And this kind of improvement is not only shown in the game, but also can be extended to study, life and other aspects. At the same time, we also investigated the mechanism of the effect of animation games on the working memory of preschool children. We found that animated games are highly engaging and stimulate positive emotional experiences and cognitive inquiry in children. This kind of cognitive inquiry can improve children's thinking ability and promote the development of children's working memory. In addition, animation games can also allow children to continuously receive new information in the game, and further improve children's working memory level through information processing and organization. Based on the above research results, we can conclude that animation games have a significant positive effect on the working memory of preschool children, and the mechanism of this effect is multifaceted, including cognitive inquiry, emotional experience, information processing and organization, etc. Therefore, we suggest that parents and educators can properly guide children to participate in animation games, let them get exercise and improve in the game, and extend this improvement to learning and life, so as to better promote children's all-round development. Working memory is an important part of children's cognitive ability, and its development will be affected by various factors, including parental rearing style and family environment. Significance. However, the existing research is only limited

to the discussion of the results of children's working memory, and the application value and promotion mechanism of animation games in preschool education have not been deeply explored. Therefore, future research can be carried out from the following two aspects. First, further exploration of the effects of animated games on children's working memory. On the basis of existing research, we can explore the mechanism by which animated games promote the development of children's working memory in preschool education, and also explore other factors that affect the development of children's cognitive abilities by animated games. Second, apply animation games to preschool education practice.

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